AN ABSTRACT OF

The Croonian Lectures

ON

THE CHEMICAL SIDE OF NERVOUS ACTIVITY.

Delivered before the Royal College of Physicians of London on June 11th, 13th, 18th, and 20th, 1901,

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LECTURE III.[1]

Delivered on June 18th, 1901.

THE lecturer stated that in his two concluding lectures he proposed to deal with the more strictly pathological side of the subject. Chemical pathology was a comparatively new branch of science and it had a great future before it. He stated that the credit of opening up a new area of research—namely, the application of chemical methods to the investigation of nervous disease—should be largely given to his colleague, Dr. Mott. The three researches with which he proposed to deal were: (1) the chemical pathology of hyperpyrexia; (2) the chemical pathology of general paralysis of the insane; and (3) the chemistry of Wallerian degeneration.

THE CHEMICAL PATHOLOGY OF HYPERPYREXIA.

The experiments on this subject were described in detail. The lecturer said:

These experiments may be summed up by saying that they fully confirm the hypothesis that the physico-chemical cause of death from hyperpyrexia is heat-coagulation of cell-globulin. When this constituent of cell-protoplasm is coagulated the vitality of protoplasm is destroyed, just as muscle loses its irritability when the corresponding proteid in that tissue is coagulated. The temperature at which such coagulation is most readily produced is 47° C. Such a temperature in animals is almost instantaneously fatal. But 47° C. (117° F.) is unknown in man. Nevertheless, proteids will coagulate at temperatures below their normal coagulating point provided the heating is continued long enough. In the case of cell-globulin, coagulation can be produced by a temperature as low as 42° C. (108° F.). This chemical change in the brain substance can be demonstrated by experiments with saline extracts of that tissue or with the "surviving" brain of animals just killed. They are coincident with the histological (chromatolytic) changes in the nerve-cells which can be rendered evident by the use of the methylene-blue process. The expression "coagulation necrosis" employed by Marinesco for this appearance is therefore justifiable. Marinesco and others who have employed exclusively histological methods of research have naturally failed to grasp the chemical meaning of their observations and have consequently missed the connexion of the temperature necessary to produce these changes with that of the coagulation temperature of cell-globulin. Although the nerve-cells are those which lend themselves most readily to the histological part of the research it is by no means improbable (looking at the wide distribution of cell-globulin) that many other cells of the body are affected by high temperatures in a corresponding manner; some varieties of what is called "cloudy swelling" are without doubt instances of coagulation-necrosis.

THE CHEMICAL PATHOLOGY OF GENERAL PARALYSIS OF THE INSANE.

Dr. Halliburton stated that his work (in collaboration with Dr. Mott) on this subject had been previously published. He would therefore only describe it in general terms. He did so in order to lead up to the consideration of the third pathological subject which he proposed to deal with and which he reserved for his final lecture. He said:

The cerebro-spinal fluid removed from cases of general paralysis of the insane is much increased in quantity and takes the place of the atrophied brain material. It produces when injected into the circulation of anæsthetised animals (dogs, cats, or rabbits) a fall of arterial blood-pressure with little or no effect on respiration. This pathological fluid is richer in proteid matter than is the normal fluid, and among the proteids nucleo-proteid is present. The fall of blood-pressure is, however, due not to proteid or to inorganic constituents, but to an organic substance which is soluble in alcohol. This substance is precipitable by phospho-tungstic acid and by chemical methods it was identified as choline. The crystals of the platinum double salt, which when crystalised from 15 per cent. alcohol are characteristic octahedra, form the most convenient test for the separation and identification of this base.

The nucleo-proteid and choline doubtless originate from the disintegration of the brain tissue and their presence indicates that possibly some of the symptoms of general paralysis may be due to auto-intoxication; these substances pass into the blood, for the cerebro-spinal fluid acts as the lymph of the central nervous system. Choline can be detected in the blood removed by venesection from these patients during the convulsive seizures which form a prominent symptom in the disease.

Normal cerebro-spinal fluid does not contain nucleo-proteid and the amount of choline is so small that it cannot be readily identified. Normal cerebro-spinal fluid produces no effect on arterial pressure; neither does the alcoholic extract of normal blood or of ordinary dropsical effusions.

The presence of choline in the pathological cerebro-spinal fluid and blood will not explain all the symptoms of general paralysis—for instance, it will not account for the fits just referred to. Its presence, however, is an indication that an acute disintegration of the cerebral tissues has occurred. If other poisonous substances are also present they have still to be discovered.

The proof that the toxic material is choline, rests not only on the chemical tests, but also on the evidence afforded by physiological experiments; the action of the cerebro-spinal substance exactly resembles that of choline. Neurine, an alkaloid closely related to choline, is not present in the fluid; its toxic action is much more powerful and its effects differ considerably from those of choline.

Physiological action of choline.—The doses employed were from one to 10 cubic centimetres of a 0·2 per cent. solution, either of choline or of its hydro-chloride. These were injected intravenously in anæsthetised animals. The fall of blood-pressure is in some measure due to its action on the heart, but it is mainly produced by dilatation of the peripheral vessels, especially in the intestinal area. This was demonstrated by the use of an intestinal oncometer. The limbs and kidneys are somewhat lessened in volume; this appears to be a passive effect, secondary to the fall in general blood-pressure. The drug causes a marked contraction of the spleen, followed by an exaggeration of the normal curves, due to the alternative systole and diastole of that organ. The action on the splanchnic vessels is due to the direct action of the base on the neuro-muscular mechanism of the blood-vessels themselves; for after the influence of the central nervous system has been removed by section of the spinal cord or of the splanchnic nerves choline still causes the typical fall of blood-pressure. The action of peripheral ganglia was in other experiments excluded by poisoning the animal previously with nicotine. Section of the vagi produces no effect on the results of injecting choline. There was no evidence of any direct action of the base on the cerebral vessels. Choline has no effect on respiration.

The effect of choline soon passes off and the blood-pressure returns to its previous level. This is due partly to the great dilution of the substance injected by the whole volume of the blood and may be partly due to the excretion of the alkaloid or to its being broken up into simpler substances by metabolic processes. It does not pass as such into the urine.

If the animal has previously received an injection of atropine, the effect produced by choline is a rise of arterial pressure, accompanied by a rise of the lever of the intestinal oncometer. This observation appears to be of some importance, for it shows how the action of one poison may be modified by the presence of another. This has some bearing on general paralysis, for the arterial tension in the early stages of that disease is usually high, not low, as it would be if choline were the only toxic agent

[1] Abstracts of Lectures I. and II. were published in THE LANCET of June 15th, p. 1659.

at work. After a succession of fits the tension sinks, and this may be explained as a result of choline action.

Physiological action of neurine.—The doses employed varied from one to five cubic centimetres of a 0·1 per cent. solution. These were injected intravenously. Neurine produces a fall of arterial pressure, followed by a marked rise and a subsequent fall to the normal level. The effect of neurine on the heart of both frog and mammal is much more marked than is the case with choline; in the case of both choline and neurine the action on the heart is antagonised by atropine. The slowing and weakening of the heart account for the preliminary fall of blood-pressure. The rise of blood-pressure which occurs after the fall is due to the constriction of the peripheral vessels, evidence of which was obtained by the use of oncometers for intestine, spleen, and kidney. It produces a marked effect on the respiration. This is first greatly increased, but with each successive dose the effect is less, and ultimately the respiration becomes weaker and ceases altogether. The animal can still be kept alive by artificial respiration. In large doses neurine acts like curare on the nerve endings of voluntary muscle. It should be mentioned that in the cases of brain atrophy referred to the cerebro-spinal fluid was removed as a rule soon after death. Specimens removed during life by lumbar puncture give, however, the same results.

[The lecture was illustrated by a number of lantern slides to show the histological changes in nerve-cells referred to, and also the graphic records of the experiments on blood-pressure, &c., in connexion with choline, neurine, and cerebro-spinal fluid.]

LECTURE IV.

Delivered on June 20th, 1901.

THE CHEMISTRY OF NERVE DEGENERATION.

THE concluding lecture dealt with the chemistry of Wallerian degeneration, the third of the pathological questions to which the lecturer had alluded at the commencement of his previous lecture. Dr. Halliburton said:—

It has been now shown that in the disease general paralysis of the insane the marked degeneration that occurs in the brain is accompanied by the passing of the products of degeneration into the cerebro-spinal fluid. Of these, nucleo-proteid and choline are those which can be most readily detected. Choline can also be found in the blood. On continuing work in this direction it was found that this is not peculiar to the disease just mentioned, but that in various other degenerative nervous diseases (combined sclerosis, disseminated sclerosis, alcoholic neuritis, and beri-beri), choline can also be detected in the blood. The tests employed to detect choline are mainly two: (1) a chemical test—namely, the obtaining of the characteristic octahedral crystals of the platino-chloride from the alcoholic extract of the blood; and (2) a physiological test—namely, the lowering of blood-pressure (partly cardiac in origin and partly due to dilatation of peripheral vessels) which a saline solution of the residue of the alcoholic extract produces; this fall is abolished or even replaced by a rise of arterial pressure if the animal has been atropinised. It is possible that such tests may be of diagnostic value in the distinction between organic and so-called functional diseases of the nervous system. The chemical test can frequently be obtained with 10 cubic centimetres of blood. A similar condition of the blood was produced artificially in cats by a division of both sciatic nerves and is most marked in those animals in which the degenerative process is at its height, as tested histologically by the Marchi reaction.

The Marchi reaction is the black staining produced by Marchi's fluid, a mixture of Müller's fluid and osmic acid, after the tissue has been previously hardened in Müller's fluid. Osmic acid by itself stains the medullary sheath of fresh healthy nerve-fibres black, but if the healthy nerve-fibres have been previously treated with a chromic solution like Müller's fluid they take on a greenish-grey colour with Marchi's fluid. Neutral fat, on the other hand, such as in ordinary adipose tissue, is stained black by Marchi's fluid under all conditions and the degenerated fat which appears in Wallerian degeneration resembles the fat of adipose tissue in this respect. The chemical explanation of the Marchi reaction is the replacement of phosphorised by non-phosphorised or neutral fat. When the Marchi reaction disappears in the later stages of degeneration the non-phosphorised fat has been absorbed. These facts were established by chemical analysis of the nerves.

The axis cyclinder participates in the fatty degeneration; and the multiplication of the nuclei of the primitive sheath is first noticed about the eighth day and is possibly due to the irritation set up by the presence of the products of disintegration.

The main facts regarding the experiments in animals may be summarised as follows. A series of 18 cats was taken; both sciatic nerves were divided, and the animals were subsequently killed at intervals varying from one to 106 days. The nerves remain practically normal as long as they remain irritable—that is, up to three days after the operation. They then show a progressive increase in the percentage of water and a progressive decrease in the percentage of phosphorus until degeneration is complete. When regeneration occurs the nerves return approximately to their previous chemical condition. The absorption of the fatty products occurs earlier in the peripheral nerves than in the central nervous system. This confirms previous observations by Mott and Barratt on human spinal cords, in which unilateral degeneration of the pyramidal tract by brain lesions produced an increase of water and a diminution of phosphorus in the degenerated side of the cord which stained by the Marchi reaction. The main results of the experiments on animals are given in the following table:—

Days after section.	Cats' sciatic nerves.			Condition of blood.	Condition of nerves.
	Water.	Solids.	Percentage of phosphorus in solids.		
Normal.	65·1	34·9	1·1	Minimal traces of choline present.	Nerves irritable and histologically healthy.
1-3	64·5	35·5	0·9		
4-6	69·3	30·7	0·9	Choline more abundant.	Irritability lost; degeneration beginning.
8	68·2	31·8	0·5	Choline abundant.	Degeneration well shown by the Marchi reaction.
10	70·7	29·3	0·3		
13	71·3	28·7	0·2		
25-27	72·1	27·9	Traces.	Choline much less.	Marchi reaction still seen, but absorption of degenerated fat has set in.
29	72·5	27·5	0·0		
44	72·6	27·4	0·0	Choline almost disappeared.	Absorption of fat practically complete.
100-106	66·2	33·8	0·9		Return of function; nerves regenerated.

Our chemical knowledge of the process of Wallerian degeneration is thus mainly limited to what occurs in lecithin, the main constituent of myelin. This substance is broken up into its constituents, and each of these is in time removed by absorption. The products of disintegration are four in number: (1) choline—this is removed first and can be detected for a time in the blood; (2) phosphoric acid—this disappears next; and (3 and 4) fatty acid and glycerine—these are the elements of a neutral fat and the fat so formed resembles other neutral fats by giving the black Marchi reaction. In time, however, this is removed also. In the removal of the fat, certain cells, probably the hypertrophied cells of the neurilemma, can be seen microscopically to play a phagocytic rôle.

Noll has shown another interesting fact in connexion with "disuse atrophy"—that is, the change which occurs in the central end of a divided nerve before regeneration has occurred. Here there is also some diminution in the amount of protagon, though not nearly so great as in the peripheral end of the nerve.

[The lecture was illustrated by a number of lantern slides, to show the relationship between the histological and chemical changes which occur in divided nerves. Other slides were reproductions of the tracings showing the effects upon arterial pressure of the choline separated out from the blood of the cases of nervous disease mentioned, and from the blood of the cats operated on. These and others will be reproduced and full details of all the experiments will be given when the lecturer publishes these lectures in a separate form, which he hopes to be able to do shortly.]

Three Lectures

ON

THE PRACTICAL POINTS IN THE TREATMENT OF THREATENED ASPHYXIA.

Delivered at the Medical Graduates' College and Polyclinic, Chenies-street, W.C.,

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LECTURE I.

GENTLEMEN,—The object of this short course of lectures is to engage your attention on a subject apparently simple and to show that on closer consideration it is a subject wide and all-embracing. To organic nature air is life, and the prevention of a due and proper supply implies either immediate or slow impending death. The regular, orderly, vital and chemical processes necessary to the well-being of plants and animal life can only continue by a supply of oxygen in a suitable form, and that form is supplied to us by nature as "atmospheric air." Now this air, so freely supplied, is introduced to the bodies of men and animals by the air passages, and it is, of course, essential that those passages should be free and safe from obstructions, partial or complete. It is this department, the department of respiration, with which I shall principally have to occupy your attention. Inasmuch as all obstructions, whatever their source, must immediately depend upon mechanical or physical causes, my subject might well be entitled "The Physics of the Upper Air Passages and their Relations in Health, Accident, and Disease."

The *nature* of atmospheric air I need not dwell upon; you all realise as men of experience that it is in the concrete a proportionate mixture of nitrogen, oxygen, and argon, a small quantity of carbonic acid and an ever-varying proportion of vapour and incidental gases, and that it suspends and has mingled with it endless organisms and atoms, ordinarily inappreciable to our senses, but doubtless having relations with our bodily welfare so far unknown and inscrutable. With the physics of our bodies it is different; here we must at once closely question the relations of part with part, their size, shape, and form, and their interactions. We must, in short, "look up" our anatomy and refresh our minds with the physiology pertaining to respiration.

The tendency of modern medicine is to drift more and more exclusively into the due and proper application of the laws of physics to the wants and derangements of suffering humanity, to make in short more truly the man of physics, the physician of to-day, and so more like our forefathers in the days of Hippocrates, when heat, light, rest and repose, exercise, gymnastics, baths, friction, and suitable food and drink were the remedies principally relied upon by the great leaders of the healing art in the relief and cure of disease. Dr. Vivian Poore in his admirable Harveian oration says: "Greek philosophy, and Greek medicine as a part of it, was grounded on the solid basis of observation. It was the product of sound minds trained in the pure atmosphere of liberty and nurtured in sound bodies developed by manly exercises." Later he says: "Darkness gradually overwhelmed the enlightenment of the Greeks. Philosophy gave way to mysticism, reason was swallowed up by superstition, and inquiry was strangled by authority. Men engaged in endless speculations and tried by fire and sword to settle questions which could not be solved by reason—questions which now barely serve to furnish a little damp ammunition for the political pyrotechnist. Intellectual training was almost limited to dialectics, and men could argue so nimbly and with such faultless logic from phantom premisses as to justify the later witticism that language was given us to conceal our thoughts. Under these blighting influences medicine withered almost to death, and the physicians of the fourteenth century were more ignorant than those of the first century. It is tolerably certain, to take a concrete example, that the beloved companion of St. Paul had a more extended and more scientific grasp of medicine than the immediate predecessors of Vesalius and Harvey."

All our organs of special sense are concerned with the relations of physics to our bodies and with their proper application—indeed, it would appear as if the senses could have no other purpose—and the instruments of the physician as well as of the surgeon are employed to aid and to strengthen the senses in their work: lenses and microscopes for the sight, stethoscopes and pleximeters for the hearing, thermometers for recording the bodily temperature, and so forth, apart from the supports, splints, bandages, and the many and highly perfected instruments of the practising surgeon.

The relations of the laws of physics to the derangements which may occur in the *respiratory* processes in health, accident, and disease are of extreme interest and importance. A child in the midst of play and happiness is seized with dyspnœa, apnœa, and asphyxia ending in death; a pea is found in a large bronchial tube, or a morsel of food or other foreign body in the larynx, and so the disaster is explained. Another child is only too well covered with bed-clothes and in the morning is found smothered in bed. A man has fallen by the wayside and is first seen in profound coma with heavy stertorous breathing and so is being slowly but indirectly suffocated by the paralysis consequent upon a cerebral hæmorrhage or by an injury to the cranium giving rise to compression of the brain; or a patient has just been rescued from the water and is dying on the river bank from suffocation caused by the retention of watery foam in the lungs and air passages. Others may be suffocating from the coagulum of hæmoptysis or from croup, pneumonia, bronchitis, or other diseases within the air passages, and yet others from mechanical pressure outside the chest, or outside the principal air ways, as in aneurysm, new growths, or glandular enlargements. We have all seen cases of these different forms of respiratory catastrophes and we have all applied the principles of physics in their relief, but inasmuch as I have for over 40 years given very special attention to this subject and have made it an experimental study I am not without hope that I may excite in you a new and greater interest in it for the future, and that you will find the principle involved "an ever-present help in time of trouble."

"Searching out the secrets of nature by way of experiment" was the guiding principle of the immortal Harvey, and "do not think but try" was equally the guiding principle of that wonder of the more recent past, John Hunter. In connexion with the relative values of observation and of experiment the great Virchow in his "Cellular Pathology" says: "By observation is obtained the verification of facts; by experiment are acquired the precise methods for re-proving them. Above all, observation is directed on the ultimate elements accessible to the senses of man; medical science is divided into an enormous heap of individual facts which appear to confuse the minds of many. But for him who dominates the facts on which the new views are founded an order is revealed that, departing from a general biological principle, permits the new discoveries to be connected according to their value, according to their mutual relations, into a scientific whole." With views similar to these and with a similar object, under the able supervision of that brilliant physiologist, the late Dr. Marshall Hall, our first experiments were instituted at St. George's Hospital to *re-prove* by precise methods certain facts observed in the drowned and to investigate the then accepted methods for resuscitation.

It was in the autumn of 1855 that I first had the privilege of knowing Dr. Marshall Hall. He was then suffering from a malady which he knew must prove fatal; not only was he in constant suffering but in constant danger of sudden death from spasm of the glottis, or of a slower death from starvation, and yet he was at that time pursuing with the utmost ardour two important physiological inquiries—the one, in consequence of the notorious "Palmer trial," on the detection of strychnine in solution by its extraordinary influence on the spinal system of frogs, and the other on the effects of suspended respiration and the best means of restoring the patient affected by that suspension. It was at this time that I was invited to join Dr. E. Long Fox, now of Clifton, and the late Mr. Charles Hunter in an inquiry on the amount of air which could be introduced into the chest by alternate pressure on and relaxation of the chest-walls—to test, in fact, the value of Leroy's principle. Out of this inquiry arose many

unexpected and interesting observations which were at once made the subject of further experiment by which principles of a far-reaching character were ultimately established and made applicable in the treatment of many forms of accident and disease as well as in suspended animation from drowning. In consequence of the state of his health Dr. Marshall Hall was not able to be present at any of our experiments in the post-mortem room; so each of us took separate notes, made our observations on the work we had done in the day quite independently, and gave suggestions for further work. These were separately posted to Dr. Marshall Hall and the next day we all went to tea with him, discussed our proceedings, and took down his suggestions for the following day's work.

This little preliminary history I think necessary to the true understanding of our subject. Dr. Marshall Hall recognised three main facts—first, that the warm bath was a slow poisoning process if used before respiration was established; secondly, that drowning was a form of apnœa, but that the forcing of air into the patient's mouth or nostrils had not proved a successful method of introducing air into the lungs; and thirdly, that the elasticity of the chest-walls ought to be sufficient to introduce the amount of air required to support life, and it was to prove this last proposition that we were requested to perform the necessary experiments. It will now be convenient shortly to demonstrate the nature of those experiments, the anatomical relations of the parts concerned, and the physiological and pathological indications of the experiments themselves. The mode of procedure was the following and was published at the time. "An indiarubber tube was inserted into one nostril, the opposite one, with the mouth, being closed and rendered air-tight by plasters, bandages, &c. The free end of the tube was now attached to a glass syphon containing a small quantity of water in its bend, and to the opposite end of this syphon was fastened an oiled-silk bag made in the form of an intestine, to which it was similar in appearance and calibre when inflated. This bag, when full, contained 40 cubic inches. The water in the syphon acted as an index of the direction of the air in its passage to or from the bag, or, as we have called it in the experiments, the oiled-silk tube. It was the amount of air expired into this tube on pronation and pressure which enabled us to compare it with the natural expiration of 30 inches, for when the tube was half-filled, which was easily proved by pressing the air towards its closed extremity, we inferred that we had 20 cubic inches in the tube, and so on. We did not pretend to perfect accuracy as to the amount, but it must be an exceedingly near approximation to the truth. I think you will also see in these experiments proof that though the supine position does not in every case prevent the passage of air it does so in a large proportion of cases; and if it does so in one case only that appears to me quite reason enough why that position should be avoided.

"*Subject 1.*—A male subject, much emaciated, about 50 years of age, and six feet in height; the body was not quite cold, and cadaveric rigidity had but partially come on; he had been dead 10 hours. The apex of the tongue reached the incisors, and the body of the tongue was at the floor of the mouth, so that a considerable space existed between its surface and the roof of the mouth. Some fluid was seen at the back of the fauces and on laying the body on its face a large quantity of fluids and solids from the stomach made their escape.

"*Experiment 1.*—Semi-rotation, prone and lateral. In the former position the tube was half filled with air, and in the latter it was instantly emptied.

"*Experiment 2.*—By alternate pressure and relaxation on the thorax (the subject supine) the same result was obtained as in Experiment 1.

"*Experiment 3.*—Semi-rotation, prone and lateral, was again had recourse to and with the same result as before.

"*Experiment 4.*—Alternate pressure and relaxation on the thorax in the supine position. *This time, not the slightest inspiration or expiration could be obtained.* On removing the coverings of the mouth the tongue was seen to be in the same position as when we began, but *there was again fluid in the pharynx.*

"*Remarks.*—This case demonstrates how, in the *supine* position, fluids in the stomach might interfere with respiration; for in Experiment 2 a good result was obtained, no fluid being in the pharynx; but after the further movements of Experiment 3 grumous fluid had been ejected from the stomach, filling up the pharynx and totally preventing the passage of air into or out of the trachea. This case also shows that the epiglottis does not in all cases cover the glottis in the supine position."

On the publication of my letter and report[1] Dr. Marshall Hall issued a set of rules for the application of the "Ready method." These were at once adopted by the rank and file of the profession—that part of it, indeed, which almost exclusively attended to such emergencies—and cases of the most wonderful recoveries were published week by week in the medical press. THE LANCET wrote laudatory articles, changed the name of the system to the "Marshall Hall method," and "Deodatus" would have been the lowest title accorded by the great body of the profession to Dr. Marshall Hall at that particular time. Meanwhile the Royal Humane Society, under the ægis of the great Sir Benjamin Brodie, held superbly aloof, stuck to the comforts of the warm bath, and would only touch the new method with the tips of its fingers—a healthy *non possumus*, as I think, in the teeth of such a threatened revolution, although the action of the society was opposed to the views based on our experiments. But more and more wonders were week by week related, until in 1858 Dr. H. R. Silvester came forward with a newer method still and called a halt in the general acclaim. Dr. Silvester repeated and confirmed our experiments on the dead body—viz., that compression and relaxation of the chest-walls gave rise to a movement of air into and out of the lungs, but he claimed, and rightly claimed, that more air could be introduced by extending the arms upwards and expanding the chest. This fact had already been well known to us in the course of our experiments, but it had also been clearly demonstrated by us that inasmuch as the supine position of the body was essential to the proper application of the arm-extension method of treatment it was quite useless as a recommendation for use by the general public in the resuscitation of those apparently drowned, and it was for the use of the life-saving societies and the non-professional public that our experimental inquiry had been conducted.

You will at once see, after what I have told you about throat, laryngeal, and bronchial obstructions from gravitation, the importance of not in any sense permitting the public to put their trust in any method which implied the necessity of the supine position of the body. Dr. Silvester says that by his method 10 times more air was respired than by the Marshall Hall method, but I cannot find in the first or third edition of his pamphlet any evidence of his having *measured* the amount of the air; the only point that he demonstrates is that water rose and fell in a bent barometer tube as in our syphon, so that in that way only a cubic inch of air or less could have been acted on. I am quite sure, however, that more air is respired by the raising of the arms, for we, as I have said, found it to be so long prior to Dr. Silvester's appearance in the field.

But the *amount* of air respired is entirely a secondary consideration; people nigh unto death or in states of syncope require very little air indeed to keep alight the spark of life. The matter of primary importance is to ensure a free and open air way, to see that there is no obstruction anywhere *en route*, and that nothing is present in the lungs to prevent the air from penetrating freely the finest of the bronchial tubes and from reaching the alveoli themselves. From dissection I have shown how easy it is in the supine position for the tongue to fall back into the pharynx and to lie in comatose or syncopal conditions, with its epiglottis on the posterior wall of the pharynx and so to block the air way, and for fluids or food to collect and to gravitate in the buccal and nasal cavities, and by our very attempts to save life in this position of the body for fluids or solids to be inspired or forced into the tubes and air cells of the lungs.

In drowning beyond and above all accidents affecting the respiratory process is the prominent and palpable fact that the lungs are stuffed and filled with froth, fine foam, and fluid varying in quantity, quality, and consistence, according to the circumstances attending the disaster. This is a fact attested by all the leading pathologists of Europe and about which there can, I think, now be no doubt whatever. Granting this, we see at once that Dr. Silvester, instead of providing for the clearance of the lungs, so directed his experiments as to determine the greatest amount of air which could be introduced into lungs already clear and in a normal condition, a proceeding which, for reasons now obvious to you, did not apply to cases of drowning; and, moreover, he introduced the air through an opening directly into the trachea, thus doing away with the protective influences of the glottis in the

[1] THE LANCET, Oct. 18th, 1856, p. 440.

living body and avoiding the danger of blocked air ways in the dead subject under experiments. However, his "method" was two years newer than ours, which is much to say in these days of haste and hurry, and the assumption that by it more air could be introduced into the chest attracted so much attention and gave rise to so much discussion that the Royal Medical and Chirurgical Society was induced to appoint a committee to adjudicate on the relative merits of the methods of resuscitation then in vogue for the treatment of apnœa and drowning. That committee, which had for its chairman Dr. C. J. B. Williams and included such men as Dr. Kirkes, Dr. George Harley, Dr. (now Sir) John Burdon Sanderson, Dr. Brown-Séquard, Dr. Hyde Salter, Sir Edward Sieveking, and Mr. Savory, was certain to uphold the honour of the society which those great names represented and certain also to command the confidence of the life-saving societies and the profession generally. Their report was read at the society on July 1st, 1862, and was published in Vol. XLV. of their Transactions and in THE LANCET.[2] The details of the experiments, although most interesting and instructive, for brevity's sake I omit. The committee first investigated anew the phenomena of apnœa in its least complicated form—viz., when produced by simply depriving the animal of air—and next the subject of drowning, especially as to the period during which an animal could be submerged and "yet recover without the aid of artificial respiration." Next the treatment of apnœa was considered, and next the experiments on the dead subject and a treatment of the apparently drowned based on those experiments was suggested, and it is with these that we shall for the moment chiefly concern ourselves. The report says[3]: "These experiments satisfactorily show that the difference between apnœa produced by plugging of the trachea and that brought about by drowning is not due to submersion, to depression of temperature, or to struggles, seeing that the two animals are placed under similar conditions, with this most important exemption—that in the one case a free passage of air out of the lungs and of water into them is permitted; in the other the exit of air and the entrance of water are prevented. There can be no doubt that both these circumstances are concerned in producing the difference in the results of the two experiments; but that the fact that animals do not recover after so short a period of immersion is mainly due to the entrance of water and the effects thereby produced seems to be established by the following considerations: The condition of the lungs, as revealed by the post-mortem examination. On examining the lungs of the animals deprived of air by plugging the trachea they were found simply congested, but in the animals drowned not only was the congestion much more intense, accompanied with ecchymosed points on the surface and in the substance of the lung, but the air-tubes—[and there, gentlemen, is the conclusion of the whole matter]—were completely choked up with a sanious foam, consisting of blood, water, and mucus churned up with the air in the lungs by the respiratory efforts of the animal. The lung substance, too, appeared to be saturated and sodden with water which, stained slightly with blood, poured out at any point where a section was made. Whether this frothy water which thus poured out from the cut surfaces escaped only from minute tubes or had any of it reached the ultimate air-cells and was poured out from the spongy surface itself could not well be determined; it certainly escaped from parts of the cut surface not occupied by air tubes of visible size. The lung thus sodden with water was heavy (though it floated), doughy, pitted on pressure, and was incapable of collapsing. It is not difficult to understand how by such infarction of the tubes air is debarred from reaching the pulmonary cells; indeed, the inability of the lungs to collapse on opening the chest is a proof of the obstruction which the froth occupying the air tubes offers to the transit of air."

The gasping but fruitless attempts at inspiration in drowned animals after removal from the water contrast strongly with the fact that an inspiratory effort after the removal of the plug in simple apnœa is almost invariably successful and followed by recovery, and accords with the different conditions discovered by a post-mortem examination. The conclusion thus arrived at is confirmed by the great length of time that the heart continues to act after submersion. The entire dependence of the early fatal issue in apnœa by drowning upon the patulous condition of the windpipe and its results were strikingly shown in another way by experiment.

Experiment 40.—A strong dog had its windpipe plugged in the usual manner and was then "drowned"—i.e., submerged in water for four minutes; three-quarters of a minute after its release it breathed and in four minutes had recovered fully.

Experiment 41.—A large dog was treated in exactly the same way and with exactly the same result—perfect and immediate recovery after four minutes' submersion.

Experiment 42.—A medium-sized dog was plugged and submerged, just as were the others. The result was just the same—after four minutes perfect recovery.

Here, then, are three cases of recovery after a four-minute apnœa in which the dogs were in every respect under the conditions of drowned animals except that their windpipes were plugged. These experiments form an admirable contrast to the cases of mere drowning without plugging.

Seeing that the entrance of water into the lungs and the formation of foam by its admixture with the air in the bronchial tubes, together with the mucus of their surface, are due to the violent respiratory efforts during the first minute of submersion it appeared that if these efforts could by any means be diminished the result might be somewhat modified. With the view of testing the validity of this opinion dogs were put under the influence of chloroform, and it was found that by simply depriving the animal of the power of breathing without respiratory efforts the periods during which submersion may be continued and recovery follow is at once prolonged. The experiments on the dead body for the production of artificial respiration were conducted on the same lines as ours and the same difficulties were encountered; there was, however, one great and fundamental difference in the mode of procedure—the committee introduced the tube directly into the trachea instead of into the nares as we had done. It is true that by this procedure they avoided the many accidents that might interfere with the amount of air respired, but they lost the great advantage of the knowledge which we had gained in our experiments. Later, however, they were driven to investigate the questions of difficulties which might arise in the pharynx and they entirely confirmed in every detail the force of our assertions that obstructions do occur, and the report goes on to say[4]: "As regards the position of the tongue and its influence in impeding the entrance of air it was found that in the dead body this organ is apt to offer great obstruction to inspiration by falling back into the pharynx and closing the laryngeal aperture."

The committee confirmed, as you see, in every detail the results of our experiments and of those of Dr. Silvester. We were all in accord up to a certain point, but the committee went further and again demonstrated that which we in our experiments had taken for granted—viz., that in drowning we are not dealing with healthy lungs but with lungs, as the chairman repeated, "choked with frothy fluid, and that fluid more or less bloody." These were the words of the chairman, and Dr. Edward Smith, so THE LANCET[5] said, adverted to the importance of the quantity of bloody water found in the lungs of the dogs drowned and explained that the water would be introduced from the bronchi into the blood-vessels by endosmosis, and this would cause swelling and bursting of the blood corpuscles after the circulation had been greatly retarded or arrested and would also cause rupture of the capillaries, or the attenuated blood would pass through the walls by exosmosis and thus appear in the bronchi. Further on he said "it had been shown by the report that in a case of phthisis where the lung capacity was greatly reduced the effect of the two methods [the Marshall Hall and the Silvester] was precisely the same. Such would also probably be the case with drowned persons in whom the lungs were full of water, which offered a great obstacle to the introduction of air, and in this condition the committee had not made any experiments. It was in reference to the practical object in the appointment of the committee that the report failed. The committee had not proved that any one of their inquiries was applicable to the drowned human subject. The time during which a man could be immersed in water and recover could not be proved by experiments on dogs, and the committee themselves had

[2] THE LANCET, July 12th, 1862, p. 37.
[3] Transactions of the Royal Medical and Chirurgical Society, vol. xlv., p. 459-461.
[4] Ibid., vol. xlv., p. 490.
[5] THE LANCET, July 12th, 1862, p. 39.

shown that all their plans for the restoration of drowned dogs had failed. The committee had, in one part of the report, disclaimed any intention to say how far the Silvester method was fitted for the restoration of the drowned; and yet in their recommendations they advise the use of this method almost exclusively, without having in any experiment tried it under these conditions—i.e., on man. The recommendation to place the body prone and allow fluid to run out of the mouth was an old recommendation, but they had *inferred* and not *proved* its value, and that only from experiments on drowned dogs which they could not resuscitate. The experiments on dogs had shown that neither cold nor hot water alone had any value as restorative agents but that the alternative of the two was somewhat useful, but this alternative had not been recommended for man. Hence he (Dr. Smith) regarded this report as but the commencement of the inquiry, a labour which had elicited important facts fitted to be employed in further researches, but as to the great object in view in the appointment of the committee—the scientific determination of the best method for restoring drowned men—he thought that it altogether failed. He urged the importance of the same gentlemen continuing the inquiry and of making experiments under the conditions in which the knowledge must be applied—viz., upon men after immersion. He thought that the results of the present inquiry proved that for the observation of defined facts with known methods of inquiry, or with slight modifications of known methods, the appointment of committees would ensure the work being done at a given time and with authority, provided the names of the observers were appended to each observation; but for the solution of complex questions (as all questions of practice are) committees would fail, since the essence of such an inquiry is the invention of a new method, and new methods can never be devised to order, but only through long-continued thought without the investigator being commonly able to trace the steps which led him to the result. Hence the last series of questions must always be solved as heretofore by individuals, and that not in any particular country, age, or time, but when the happy idea has occurred to an inquirer. Such he believed to be the experience of those who who had been extensively engaged in scientific research. He attached great value to the facts contained in the report."

With these remarks I entirely agree and, from having lived many years at a seaside town and having been favoured with the cordial support of the coastguard officers and my medical colleagues in my own town and others on the east coast I have had several opportunities of observing and treating cases of drowning in the human subject, have tested the value of many questions under discussion, and have brought to a more definite issue the original object of *our* work, of Dr. Silvester's, and of that of the Royal Medical and Chirurgical Society. The more practical part of the subject I propose to deal with in my next lecture.

ON THE AGGLUTINATING PROPERTY OF BLOOD SERUM IN CASES OF PLAGUE.

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THE number of observations which have been made up to this time on the agglutinative power of serum from patients in the course of, or during convalescence from, an attack of bubonic plague is comparatively limited. This is all the more remarkable when one considers the numerous opportunities which have occurred during the last five or six years for such observations. The literature also bearing on the subject is not at present of such extent or completeness as to furnish a basis for inferences of practical value. The earliest reference to this part of the subject which I have been able to find is contained in the report of the German Commission sent to Bombay for the investigation of plague. In their abstracted report, published in the *Deutsche Medicinische Wochenschrift* for 1897, the existence is announced of a definite reaction between the serum of man and animals infected with plague and an emulsion of the specific bacillus. The reaction consists in the precipitation of the bacilli in the form of small distinct floccules when such serum is added to a test tube containing an emulsion of plague bacilli. The report also states that no such precipitation of other organisms by plague serum occurs, the emulsion of these remaining uniformly turbid. The report of the commission, however, makes no mention of the value of the reaction either as a diagnostic or prognostic agent in this disease, and suggests merely that the specificity of the reaction may constitute a reliable method for the identification of the plague bacillus and its differentiation from other organisms closely resembling it. About the same time Paltauf[1] established the existence of the reaction in the blood of animals (guinea-pigs and horses) which had succumbed to inoculations of dead plague cultures. A very slight degree of dilution of the blood, however (from 1 to 5 or even 1 to 1), was employed—a fact which tends to diminish the value of the observations. Considerably greater practical importance attaches to the results obtained by Wyssokowitz and Zabolotny.[2] These authors state that the agglutinative power is not manifest during the earliest and most acute stage of the disease. It first appears in the blood about the seventh day of illness, gradually increases up till the fourth week, and declines after this period. In cases fatal during the first week of illness they found it absent.

A short *résumé* of the results obtained independently by Professor Zabolotny during the epidemic at Bombay in 1897 appeared in the *Deutsche Medicinische Wochenschrift* for the same year,[3] and though no details are given the conclusions to which he has been led substantially agree with those of the last-mentioned observers. In a subsequent paper[4] the method employed for demonstrating the reaction is stated, and from a comparatively large number of single observations the probable curve of the agglutination wave is constructed. I desire here to acknowledge my indebtedness to Professor Zabolotny, to whom, during his stay in Glasgow, I owed several valuable suggestions in the carrying out of my work on this subject. Dr. Leumann of the Bombay Plague Laboratory has also made a considerable number of single observations on the bactericidal and agglutinative properties of plague serum, and while the technique adopted was sufficient for the demonstration of the former property and for rough estimations of the latter, it was evidently quite impossible to obtain reliable comparative data by this method. One or two loopfuls of an agar culture were simply suspended in sterile water and serum was added drop by drop till precipitation of the microbes occurred. No attempt was made to estimate the relative proportions of serum and emulsion, and, as will be shown later, the *sine qua non* of all agglutinative experiments—viz., a perfectly homogeneous emulsion—cannot be obtained by this method. A short paper by Dr. E. Klein[5] completes the list of those which I have hitherto been able to consult. In it he mentions the difficulty and emphasises the importance of obtaining a perfectly homogeneous distribution of the bacilli in the emulsion to be used. (This is referred to in a later part of the present paper.) The extensive report of the Austrian Commission contains, so far as I am aware, no reference to this aspect of the subject, and the comparatively short paragraph devoted to it in the exhaustive work of the late Dr. Müller of Vienna[6] is indicative of the necessity for extending our observations on the subject.

The recent outbreak of bubonic plague in Glasgow provided an opportunity of furnishing an additional contribution on the character and significance of the agglutinative phenomenon in this disease. It has been my desire to gauge as accurately as possible the degree of completeness of the reaction at several stages of the disease in the same individual, so that a basis for the estimation of its value at any particular period may be established. The following record contains particulars of 24 cases examined with this specially in view, and considerably over 300 agglutination tests have been performed to furnish the strictly comparable data. The fact that the entire series of observations was made by myself is mentioned only to indicate that the

[1] Wiener Klinische Wochenschrift, 1897, p. 537; also La Semaine Médicale, June 2nd, 1897.
[2] Archives Russes de Pathologie, May, 1897. Recherches sur la Peste Bubonique. Annales de l'Institut Pasteur, No. 8, p. 663, 1897.
[3] Über agglutinirende Eigenschaften des Menschenblutserums bei der Pest, Deutsche Medicinische Wochenschrift, 1897, No. 24, p. 392.
[4] Recherches sur la Peste, Zabolotny, Archives des Sciences Biologiques, April, 1900, T. viii., No. 1.
[5] THE LANCET, Feb. 16th, 1901, p. 456.
[6] Die Pest von Müller und Pöch, 1900.

standard of comparison by naked-eye examination of all the reactions has been practically uniform throughout.

Unfortunately, many of the earlier agglutinative experiments performed with plague serum in this research were rendered of comparatively little value owing to the fact that a mode of procedure was adopted similar in all respects to that now in common use for obtaining the agglutinative reaction in enteric fever. The method adopted for the latter purpose becomes inapplicable to plague because the specific bacillus, unlike that of enteric fever, does not produce in peptone bouillon a homogeneous turbidity during growth, but tends to cohere either in the form of strands of varying lengths ("stalactites") or as minute floccules which are aggregated mainly on the sides and bottom of the tube, and to a lesser extent occur throughout the fluid medium. It was found impossible by means of prolonged agitation of such a culture to produce a homogeneous suspension of the bacilli. After such treatment, the micro-organisms were found to settle at the bottom of the tube in the form of a loose powdery deposit, and on microscopical examination clumps of minute size were found throughout the supernatant fluid. The most important condition for the performance of a trustworthy series of experiments in agglutination or sedimentation—viz., an absolutely homogeneous emulsion of the young organism—is therefore, in the case of bacillus pestis, unobtainable with peptone bouillon. The cohesion of the bacilli during growth in bouillon (possibly related to the development of an adhesive agent connected with the capsules of the organisms by which zoogloea-like masses are formed) is also exhibited during growth on the surface of agar-agar. If the surface of such a culture of 24 hours' incubator growth be touched with a platinum loop its slimy consistence becomes at once apparent, and while the needle is being removed a fine gelatinous thread is drawn out from the growth on the tip of the wire. This becomes a more marked feature in slightly older cultures. The difficulty in obtaining such an emulsion of plague bacilli was one which entailed a considerable amount of experimental work. It was ultimately found that a homogeneous emulsion could be obtained in sterile 0·75 per cent. salt solution. It is noteworthy that Dr. Klein, whose paper on the subject has recently appeared, has solved the same difficulty after trial of various expedients in an almost precisely similar manner. This method yields a perfectly homogeneous and workable emulsion which remains practically unchanged for 24 hours, showing no signs of clarification in the upper portion of the fluid and no great tendency to the deposition of micro-organisms at the foot of the tube. A drop of this fluid examined under the microscope shows the bacilli perfectly free and isolated from each other, and, if carefully prepared, ought to be entirely free from any clump-formations.

The following was found the most suitable method of preparing the emulsion, which, in view of the necessity of obtaining reliable comparative results in each case, was required in considerable quantities. Several sloped agar tubes, which had been inoculated from a 24 hours' culture of bacillus pestis, were incubated for from 24 to 36 hours. Cultures which showed the presence of involution forms in considerable numbers, or which had been incubated for longer periods than 48 hours, were not (and should not be) used for this purpose. The tubes were then filled with sufficient 0·75 per cent. sterilised salt solution to cover the solid medium. The growth was then as far as possible transferred to the salt solution. This was carried out most efficiently and without tearing the surface of the agar in the process by rubbing the growth with the rounded extremity of a sterile Pasteur pipette the end of which had been previously curved in the form of a shepherd's crook. The various emulsions so prepared were then decanted into a large sterilised test tube which was set aside for a short time to allow any cohering masses which might be present to settle. If the growth had been very luxuriant a more sensitive emulsion was usually obtained by diluting still further with salt solution. The exact degree of dilution with salt solution is undoubtedly a matter of some importance and can only be determined after considerable experience in agglutinative work. As a matter of frequent observation it may be stated that too concentrated emulsions are agglutinated very slowly and often very imperfectly. In the following series of observations the emulsions were all prepared from the same stock cultures, incubated for approximately the same length of time, and as far as possible grown under exactly similar conditions. It need hardly be added that the cultures used responded to all the recognised tests for the complete identification of the bacillus pestis. Inoculation of animals with these cultures reproduced the disease with its characteristic lesions and after death the specific bacillus was recovered from the blood or organs.

In performing experiments on agglutination two chief methods are recognised: (1) the microscopical and (2) the macroscopical or sedimentation method. The result of a considerable number of comparative trials of both methods indicated that on the whole the latter yielded more reliable data. By means of the microscopical method, however, pronounced and in every way characteristic reactions can be demonstrated in much higher dilutions than by the latter technique, but data so obtained are frequently vitiated by the occurrence at times of puzzling and apparently unaccountable pseudo-reactions. Consequently, though the potency of a given serum was estimated in most instances by both methods, only the sedimentation test was adopted throughout this series of observations as the standard for performing comparative quantitative estimations, and no serum was regarded as yielding a positive result which failed to give a satisfactory reaction by this method. The reactions were carried out with serum separated directly from blood collected in sterilised Pasteur pipettes, care being taken in every possible way to avoid its contamination. By so doing the possible introduction of a fallacious factor in the means used for obtaining serum by a blister was avoided. The amount of time absorbed in the careful separation of serum directly from blood necessarily limited the number of observations made. It may be stated, however, that no visible difference either in the degree of the reaction or in the time within which it made its appearance could be detected in several instances where serum separated from blood and that obtained from a blister were used from the same case and at the same date for purposes of comparison.

Before undertaking a consecutive series of observations it is well to prepare beforehand all necessary apparatus so that no delay may take place at any stage which might interfere with or vitiate the comparative value of individual reactions. Accordingly it was found advisable to have in readiness a supply of ordinary Pasteur pipettes about 30 centimetres in length and an equal number of a slightly modified pattern. The latter were provided with a capillary portion of a length equal to the distance between the open extremity of the ordinary Pasteur pipette and the commencement of its capillary portion; in addition, a constriction or neck was fashioned on the upper end of the tube about three-quarters of an inch below the level of the cotton plug. Blood is most conveniently obtained from puncture of a finger, the skin being first rendered sterile according to recognised methods. All traces of antiseptics having been removed by a final washing with spirit the finger is carefully dried with aseptic gauze and the pulp punctured with a sterilised bayonet-pointed needle. The drop of blood which exudes is immediately aspirated into a sterilised Pasteur pipette the sealed extremity being first passed through a flame and then snapped across at a suitable level by means of sterilised forceps. By "massaging" the finger from above downwards and aspirating each drop as soon as it appears, a quantity sufficient not only for the immediate performance of the reaction, but also for purposes of comparison subsequently, can usually be obtained. In this way from half to one cubic centimetre of blood may be furnished by a single successful puncture. During aspiration care should be taken to avoid the introduction of any air bubbles, as these interfere to some extent with the formation of a firm coagulum and a resulting clear serum. The fine extremity of the tube is then sealed by drawing it out in a spirit flame, unnecessary heating of the contents being carefully avoided. The pipette is kept in an upright position and set aside in a cool place for several hours pending the separation of the serum. If no air has been introduced a firm coagulum usually forms at once and may be seen floating in the centre of the tube surrounded by a perfectly clear serum. If, however, during the process of aspiration the blood has been more or less churned up with air, then it is better to set the tube aside for from 12 to 18 hours. The resulting serum in this case is apt to contain a considerable number of red corpuscles, and though these in no way interfere with the satisfactory performance of the reaction a clearer serum is obtained if time be allowed for

the sedimentation of the red corpuscles. The separation of the serum from the coagulum is effected by means of the modified pipettes. The cotton-wool plug being removed from the tube containing the blood, the sealed extremity of a modified pipette is first snapped across with sterilised forceps, the capillary portion introduced into the former and carried down to the conical narrowing of the tube. The clear serum is then aspirated into the second tube and the capillary portion sealed at a suitable level by drawing out in a flame. Before doing so, however, the precaution should be observed of aspirating all the fluid into the body of the tube so as to avoid any undue heating of the serum. If the preservation of the serum for any length of time is desired the pipette may easily be converted into a hermetically sealed capsule by drawing out the constricted portion in a Bunsen flame. On account of the difficulty of preparing two emulsions of exactly the same density it is always better to subject at one time as large a number of sera as possible to the influence of a single emulsion. For the same reason when performing quantitative estimations it is absolutely necessary to compare the agglutinating power of the serum under observation with that obtained at a previous date, the potency of which has already been ascertained by repeated experiment. Only by so doing is it possible to establish an arbitrary standard and so gain an accurate conception as to the quantitative value of individual reactions. When results materially disagreed with previous observations the data so obtained were disregarded and the series of reactions again observed with a fresh emulsion.

The reaction is conveniently performed in test tubes about nine centimetres in length prepared from ordinary soft-glass tubing of about 0·7 centimetre internal diameter. These are thoroughly cleansed and dried, the open extremity being closed with a plug of cotton-wool. After sterilisation at a temperature of 160° C. for an hour they are ready for use. In all cases the reaction was carried out in at least three dilutions, and in many instances with sera possessing a high degree of potency in five dilutions. The proportions adopted throughout have been: 1 in 10, 1 in 25, 1 in 50, 1 in 75, and 1 in 100. In no case has an undoubted reaction been obtained in a dilution higher than 1 in 75, and reactions lower than 1 in 10 have not been recorded, as the necessarily large relative dilution of serum with the emulsion in such preparations yields a practically clear fluid in which the determination by the naked eye of any agglutination becomes a matter of extreme difficulty.

The reaction is conveniently performed as follows. A long Pasteur pipette is taken and its capillary portion snapped across at a level corresponding in diameter with that of the capillary portion of the pipette containing the serum under examination. It is thus ensured that drops issuing from the orifices of these two pipettes will have as nearly as possible the same volume, and in this way any required dilution of serum with emulsion can be readily performed. The Pasteur pipette, the wider portion of which is guarded by two cotton-wool stoppers to prevent possible accidents during inspiration, is filled with the bacillary emulsion. A drop of serum having been introduced into each of a series of sedimentation tubes the emulsion of bacilli is added to each drop by drop to produce the requisite degree of dilution. The serum and emulsion are thoroughly mixed and the cotton-wool stopper is replaced in the sedimentation tube. It is convenient to place vertically in a small deep box the requisite number (from three to five) of sedimentation tubes for each serum under investigation. This obviates the necessity of labeling each tube and at the same time prevents confusion. The degree of dilution can then be readily inferred from the volume of fluid in each tube. When completed the whole series is set aside in a cool chamber for from 18 to 24 hours. As control experiments in each series two or more tubes containing (1) a quantity of the bacillary emulsion and (2) emulsion + normal serum in corresponding dilutions were employed. If at the end of 24 hours any degree of sedimentation had taken place in these latter the data obtained from this series were not recorded. Under ordinary circumstances, however, no changes were observed in the control tubes, whilst in the case of those containing serum from a convalescent plague patient a remarkable alteration became apparent after a variable interval of time and according to the potency of the serum. The emulsion was seen to clarify from above downwards till practically the entire column of fluid became absolutely clear. This change was due to the precipitation of bacilli to the lower part of the tube, where they form a loose flocculent deposit. On examining this bacillary deposit under the microscope it was observed that the capsules of the organisms had become indistinct. In the case of powerfully agglutinative sera the process may be observed to commence after one or two hours, but as a rule the reaction is rarely completed till 24 hours have elapsed. Consequently the latter has been adopted as the uniform time limit throughout this series of investigations. In high dilutions or when dealing with sera of feeble agglutinative power the reaction, as might be expected, is less complete. Comparison with the control tubes, however, show that while a certain degree of clarification and precipitation has occurred at the end of 24 hours the process has stopped short of completion, leaving a slightly opalescent appearance in the tube. In the following tables such reactions are indicated by the sign +f (feeble), as the precipitated microbes showed the same microscopical changes as in complete reactions. A complete reaction is indicated by the positive sign + whilst the negative sign − indicates that no reaction has taken place. In the case of powerfully agglutinative sera, when clarification of the emulsion occurs soon after performing the dilution (from one to two hours), the double sign + + has been used.

The following tables represent in a condensed form the result of over 300 separate agglutination tests of the serum taken at different stages of the illness from 25 plague patients. The reports of many of these cases have already appeared in this journal, and as the remaining cases of interest will be published shortly detailed clinical histories have been purposely omitted in this paper. It has been deemed advisable, however, to add short clinical *résumés* of those mild cases in which bacteriological confirmation of the diagnosis was not available. The cases examined were all of the bubonic type, and of these nine received at one time or other varying doses, either subcutaneously or intravenously, of Yersin's anti-plague serum. The agglutinative reactions in these cases, however, were probably not modified to any considerable extent by the previous administration of the serum for curative purposes. In support of this it may be here remarked that the blood serum of individuals who had received one or more prophylactic doses of this serum showed no evidence whatever of agglutinating power. It is therefore highly improbable that the data so obtained have been vitiated in the slightest degree, as even the remedy itself when mixed with a highly sensitive emulsion fails to produce any visible change after the lapse of 24 hours. With the view of ascertaining the possible effect of a mixed infection on the agglutinative reaction I undertook a complete bacteriological examination of most of the organs in fatal cases of plague. These results are appended in Table I. Reference to the cases in Table II. shows that the presence of micro-organisms other than the bacillus pestis in the blood or organs of a patient dead from bubonic plague does not prevent the development of the specific reaction.

For purposes of classification the cases have been arranged in the following groups.

Table II. shows the results obtained from six fatal cases, in all of which the presence of the bacillus pestis was verified by reproducing the disease with its characteristic lesions in animals. Cultures of the specific bacillus were obtained during life, either from the bubo or blood of the patient, or post mortem from the various organs. These were either injected subcutaneously or a small quantity of an agar growth placed in the nasal cavity of an animal and the bacillus again recovered from the tissues after its death. In this group of cases the reaction was also demonstrated with other body fluids—viz., pleural effusion, pericardial effusion, peritoneal fluid, and bile. With respect to the first three of these it will be observed that, in comparison with blood serum a relatively high degree of agglutination has been noted in the only three cases in which it was possible to perform the test with these morbid exudations.

Table III. comprises those severe cases terminating in recovery, from all of which the bacillus pestis was obtained by puncturing the bubo. A sterilised hypodermic syringe was inserted into the glandular swelling and from the serous fluid withdrawn the specific organism was demonstrated on direct microscopical examination of smear preparations. Culturally the organism isolated from each case responded to all the recognised tests for the identification of Yersin's bacillus, and, as in the first group of cases, was further verified by the biological test. In the case of Mrs. M. it was

thought unnecessary to perform a bacteriological examination of the bubo, as the patient's daughter (Mrs. M.), granddaughter (baby M.), and son (Robert M., see Table II.), all died from bubonic plague.

Table IV. comprises those comparatively mild cases of plague with characteristic bubo. From the first three of these the specific organism was isolated and identified as above, but only in the case of Mrs. G. was the proof completed by animal inoculation. In the last three cases (James C., Rosina M., and Dennis T.) it was found impossible to cultivate the organism either from the juice obtained by puncture of the glands, or at a later stage when the bubo

TABLE I.—RESULT OF BACTERIOLOGICAL EXAMINATION OF ORGANS IN FATAL CASES OF PLAGUE.

Name.	Date of sickening.	Bacteriological examination during life.	Bubo.	Spleen.	Blood of heart.	Lungs.	Liver.	Other tissues.
Mrs. M., aged 20 years; admitted Sept. 15th; died Sept. 16th.	Sept. 13th.	Bubo: bacillus pestis (pure culture). Blood: bacillus pestis (pure culture).	(1) Bacillus pestis (almost pure culture); and (2) bacillus coli communis (scanty).	(1) Bacillus pestis (scanty); and (2) bacillus coli communis (abundant).	Bacillus pestis (pure culture).	(1) Bacillus pestis; (2) diplococcus (Friedlander's); and (3) bacillus catarrhalis.	—	Retro-peritoneal glands: bacillus pestis (pure culture).
Baby M.; born Sept. 16th; died Sept. 27th.	Sept. 24th.	Not undertaken.	(1) Bacillus pestis; and (2) bacillus coli communis.	(1) Bacillus pestis; and (2) bacillus coli communis.	(1) Bacillus pestis; and (2) bacillus coli communis.	(1) Bacillus pestis; and (2) bacillus coli communis.	(1) Bacillus pestis; and (2) bacillus coli communis.	—
Mary G., aged 6 years; admitted Sept. 19th; died Sept. 25th.	Sept. 18th.	Bubo: bacillus pestis (pure culture). Blood: sterile (7 daily consecutive examinations).	—	Post-mortem examination refused.			—	—
James H.; admitted Sept. 12th; died Sept. 13th.	—	Not undertaken.	(1) Bacillus pestis; (2) streptococcus; and (3) large diplococcus.	(1) Bacillus pestis; and (2) streptococcus.	(1) Bacillus pestis; and (2) streptococcus.	—	(1) Bacillus pestis; and (2) streptococcus.	Kidneys: (1) bacillus pestis; (2) streptococcus; and (3) large bacillus.
James B., aged 60 years; admitted August 28th; died Sept. 24th.	August 12th.	Bubo: bacillus pestis (pure culture). Blood: sterile.	(1) Bacillus pestis (scanty); and (2) chiefly a small putrefactive bacillus.	(1) Bacillus pestis (scanty); and (2) staphylococcus pyogenes albus.	—	—	—	—
Robert M., aged 12 years; admitted Sept. 16th; died Sept. 28th.	Sept. 14th.	Blood: sterile. Bubo: staphylococcus pyogenes aureus, Sept. 25th.	(1) Bacillus pestis (scanty); and (2) staphylococcus pyogenes aureus (abundant).	(1) Bacillus pestis (abundant); (2) staphylococcus pyogenes aureus (scanty); and (3) bacillus coli communis.	(1) Bacillus pestis (scanty); (2) staphylococcus pyogenes aureus (abundant); and (3) bacillus coli communis.	(1) Bacillus pestis; (2) staphylococcus pyogenes aureus; and (3) bacillus coli communis.	—	Urine: sterile. Peritoneal fluid: sterile. Mediastinal abscess: (1) bacillus pestis; (2) staphylococcus pyogenes aureus; and (3) bacillus coli communis.
William W., aged 48 years; admitted Sept. 20th; died Oct. 6th.	About August 24th.	Bubo: (1) degenerated plague bacilli; (2) staphylococcus pyogenes aureus; and (3) staphylococcus pyogenes albus.	(1) Staphylococcus pyogenes albus; (2) streptococcus; and (3) large diplococcus.	(1) Staphylococcus pyogenes albus; (2) bacillus pestis; and (3) bacillus coli communis.	—	—	(1) Bacillus pestis; and (2) bacillus coli communis.	—

TABLE II.—FATAL CASES.

Name.	Age.	Day of illness on admission.	Date of examination of serum, &c.	Nature of fluid examination.	Result of bacteriological examination.	Result of animal inoculation.	Dilution of serum with emulsion of bacillus pestis in proportions of— 1 in 10	1 in 25	1 in 50
Mrs. M.*	20	Third day.	Fifth day.	Blood, post mortem.	+	+	–	–	–
Baby M.	7 days.	—	Seventh day.	Blood, post mortem.	+	+	+	–	–
				Pleural effusion.			+	+	–
Mary G.†	6	Second day.	Fourth day.	Blood serum.	+	+	+ f	–	–
			Seventh day.	Blood, post mortem.			+	–	–
				Pleural effusion.			+	+ f	–
Robert M.‡	12	Third day.	Twelfth day.	Blood, post mortem.	+	+	+	–	–
				Pericardial effusion.			+	+	–
				Peritoneal effusion.			+	+	–
James B.	60	Fourteenth day.	Sixth week.	Blood, post mortem.	+	+	+ +	+	–
William W.	48	Fourth week.	Sixth week.	Blood, post mortem.	+	+	+	+ f	–
				Bile, post mortem.			+	+ f	–

* 60 c.c. of serum (Yersin) were injected. † 100 c.c. of serum (Yersin) were injected. ‡ 80 c.c. of serum (Yersin) were injected.

had broken down from the sero-purulent discharges. The failure to obtain the bacillus in these cases was no doubt due to the comparatively late stage of the illness at which the patients first came under observation. As the disease ran an exactly similar course, however, to those from which the specific organism had been recovered, and as in each instance the serum possessed marked agglutinative power, there appears to be every possible reason to regard them as undoubted though mild cases of plague. The following synopsis of the clinical features of these cases reveals their character sufficiently.

Dennis T., aged five years. This patient was admitted on the eighth day of illness with a glandular swelling in the right inguinal region which presented the characteristic appearance of a plague bubo in the stage of resolution. The enlargement was limited to the vertical set of glands, the skin over and around it being inflamed and exceedingly tender. The patient, though not acutely ill, was drowsy and showed a lack of interest in his surroundings. Examination of the heart and lungs revealed nothing noteworthy. The admission temperature of 100·4° F. was never exceeded and a few days later the patient seemed quite well, though the bubo, while less tender, showed no signs of resolution. On the sixteenth day of illness spontaneous rupture of the bubo took place, convalescence thereafter being rapid and complete. Cultures from the bubo, made as above described, proved sterile, though smear preparations showed the presence of numerous degenerated bacilli. No doubt, however, can be entertained as to the nature of this patient's illness both on account of the association and the clinical appearances. The patient's grandfather (James B., Table II.) died from plague, and his mother (Mrs. T., Table III.) passed through a very severe attack of this disease. The identity of the isolated organisms in both these latter cases was verified by animal experimentation.

James C., aged 24 years. This patient was admitted to hospital on August 30th, 1900. He slept for a single night on August 13th in a room on the same landing as several of the other plague patients, though his usual place of residence was at a considerable distance from the plague infected area. On August 16th he was seized with an illness, evidently of considerable severity, associated with headache, sickness, and vomiting, and pain in the left inguinal region. The report received from the medical attendant, Dr. G., is as follows. On August 17th the temperature was 103° F. and the pulse 102. There was severe headache with vomiting. The patient complained of pain in the left inguinal region where there were some redness and swelling. On the 21st the temperature was 102·6°, the pulse 98, while the swelling had increased in size and was still painful. On the 24th the temperature was 100 and the pulse 90. The swelling was sausage-shaped and lay along the upper border of Poupart's ligament; it was fairly hard and pitted on pressure. On admission the patient was evidently convalescent, no sign of illness being present. The temperature was normal. On examination of the left groin, however, a swelling rather larger than a pigeon's egg was discovered immediately above Poupart's ligament and evidently involving the horizontal set of glands. The overlying skin was inflamed and slightly œdematous and fluctuation could be easily obtained. A hypodermic needle inserted into the glandular swelling withdrew a quantity of dark grumous fluid which, on microscopical examination, showed the presence of numerous degenerated bacilli; and though a considerable number of agar tubes were inoculated on two separate occasions no growth whatever could be obtained. Convalescence was uninterrupted, the bubo disappearing by absorption.

Rosina M. was admitted from the plague-infected area in her third week of illness. At this date all clamant symptoms had subsided, but examination of the inguinal region on each side showed the presence of a bilateral bubonic condition involving the group of glands situated immediately above Poupart's ligament. Each bubo was about the size of a large walnut, that on the left side being comparatively firm and painless, whilst in the other fluctuation could be easily detected. On both sides the overlying skin was inflamed and adherent to the glands beneath. The history of the illness obtained from various sources showed that the onset was sudden and acute and was characterised by high fever (temperature 104° F.), accompanied by rigors and delirium; headache, sickness, and vomiting were also present and continued for some time after the appearance of the buboes which were discovered by the patient herself on the third day of illness. These were apparently exceedingly painful at this stage. They rapidly increased in size during the succeeding two or three days, after which the tenderness slowly subsided. The bubo in right groin ruptured spontaneously in the fourth week of illness, discharging a sero-purulent fluid for about 10 days, whilst that on the left side underwent resolution without rupture. Both buboes were explored with a hypodermic needle as in previous cases and culture tubes inoculated with the aspirated fluid remained sterile. At a later date the subcutaneous injection of a mouse with the discharges from the right bubo was unattended by any serious disturbance in the animal's health.

The remaining cases grouped in Table V. may be regarded, both from the etiological and clinical standpoint, as fairly typical examples of *pestis ambulans*. In all the illness was apparently so slight that, apart from a definite history of contact with infected persons and in the absence of a bacteriological examination, it would have been quite impossible to pronounce upon the exact nature of the glandular affection. The general course and symptomatology of such cases has already been described in a previous article and it will therefore be sufficient here to indicate briefly the salient points of each case.

Of these the most interesting is the case of a ward-maid in one of the pavilions set apart for the isolation and treatment of plague patients. Ten days prior to the commencement of her illness she had received a prophylactic injection of 10 cubic centimetres of Yersin's serum. The illness, however, was of a comparatively trifling nature, the patient only complaining of a moderate degree of indisposition for about three days. Bacteriological examination, however, demonstrated the presence of the plague bacillus in an exceedingly small cervical bubo. The serum taken during the third week of illness agglutinated an emulsion of plague bacilli in a dilution of 1 in 25 though the constitutional disturbance was so slight that the temperature and pulse throughout the illness never rose above normal.

Agnes R., aged three and a half years. This patient was a "contact" from the Molloy wake—one of the first discovered foci of infection. The illness, of sudden onset, was accompanied by headache, sickness, and vomiting, and pain in the left axilla. Examination of this region showed the presence of a small bubo, but an exploratory puncture failed to withdraw any lymphatic gland fluid. The temperature rose to 101° F. on the first day of illness and subsided to normal two days later. Convalescence was rapid and complete.

The cases of Archibald D. and William M. are fully reported in THE LANCET of Sept. 22nd and Sept. 15th, 1900.

In the remaining three cases the sudden appearance of bubo (axillary in one case, cervical in the others) was associated with symptoms of fairly acute onset, similar in all respects to those already described. In these, however, a bacteriological examination was not undertaken, but the peculiar nature of the illness, taken in conjunction with a very definite history of exposure to infection, seems sufficient to warrant these cases also being regarded as examples of the mildest variety of this disease. It may here be added that the serum of patients suffering from various forms of specific infectious disease and taken at various stages of their illness was examined in different degrees of dilution with an emulsion of bacillus pestis. In no case was any reaction observed. The diagnostic value of its appearance, therefore, in cases associated with slight glandular enlargement is to this extent enhanced.

The following deductions appear fully warranted from an examination of the accompanying tables. 1. During the early days of the disease the reaction is not manifested and consequently in rapidly fatal cases is probably never obtained. 2. Agglutinating properties first appear in the blood towards the close of the first week of illness (dilution of 1 in 10). These gradually increase in intensity up to the sixth week of illness and are sometimes maintained at a high level as late as the eighth week. After this date, however, in the majority of cases a gradual decline in the agglutinative power of the serum becomes apparent. The rates of increase and decrease of the reaction, generally speaking, are approximately equal; occasionally, however, the reaction wanes and disappears in a shorter period than that occupied between its appearance and point of maximum intensity. 3. In very severe cases ultimately proving fatal the reaction though present never reaches a high degree of intensity. In cases

TABLE III.—SEVERE CASES ENDING IN RECOVERY.

Name.	Age.	Date of illness on admission.	Date of serum examination.	Result of bacteriological examination.	Result of animal inoculation.	Dilution of serum with emulsion of bacillus pestis in proportions of—				
						1 in 10	1 in 25	1 in 50	1 in 75	1 in 100
Pat. F.	56	Second week.	Seventh week.	+	+	+ +	+	+	–	
			Twelfth week.			+ +	+	–	–	
Mrs. M.	40	Sixth day.	Third week.	+	+	+	–	–		
			Sixth week.			+ +	+ +	+ +	+ f	–
			Ninth week.			+	+	+	–	–
			Twelfth week.			+	+ f	–	–	
Mrs. T.	40	Thirteenth day.	Third week.	+	+	+ +	+	–	–	
			Eighth week.			+ +	+	+	+ f	–
			Tenth week.			+	+	–	–	
			Twelfth week.			+	+	–	–	
Thomas H.*	15	Seventh day.	Fourth week.	+	+	+ +	+ +	+		
			Fifth week.			+	+	–		
			Sixth week.			+ +	+	+	+ f	
			Eighth week.			+ +	+ +	+	+ f	–
			Eleventh week.			+ +	+ +	+	–	
			Fifth month.			+	+	–	–	
Charles M.*	27	Second day.	Sixteenth day.	+	+	+	+	–		
			Fourth week.			+	+	+		
			Sixth week.			+ +	+	+	+ f	–
			Eighth week.			+ +	+	–	–	
			Four and a half months.			+	+	–	–	
Mrs. M.*...	41	Second day.	Seventh day.			+	+ f	–		
			Eighteenth day.			+	+	+	–	
			Fifth week.			+	+	+ f		

* 40 c.c. of serum (Yersin) were injected.

TABLE IV.—MILD CASES.

Name.	Age.	Day of illness on admission.	Date of serum examination.	Amount of serum (Yersin) injected.	Result of bacteriological examination.	Result of animal inoculation.	Dilution of serum with emulsion of bacillus pestis in proportions of—				
							1 in 10	1 in 25	1 in 50	1 in 75	1 in 100
Mary M....	14	Second day.	Sixth day.	40 c.c.	+		+	–	–		
			Sixteenth day.				+	+	–		
			Third week.				+ +	+	+ f	–	
			Fifth week.				+ +	+	–		
Mrs. B.	29	Second day.	Ninth day.	40 c.c.	+		+	+ f	–		
			Eighteenth day.				+ +	+ f	–		
			Sixth week.				+	–	–		
Mrs. G.	28	Second day.	Third week.		+	+	+ +	+ +	+	–	–
			Fourth week.				+ +	+ +	+ +	+	–
			Sixth week.				+	+	+	–	
			Eighth week.				+	–	–		
			Four and a half months.				+	–	–	–	
James C....	24	Third week.	Third week.		–	–	+	+ ?	–		
			Fifth week.				+	+	+ ?		
			Seventh week.				+	+	–		
			Ninth week.				+	+	–		
Dennis T.	6	Ninth day.	Fifth week.		–	–	+ +	+ +	+	–	
Rosa M.	28	Third week.	Fifth week.		–	–	+	+	–		

of almost equal severity, however, in which an early and rapid convalescence followed, the reaction was of a more marked character. 4. In the mildest forms of plague a high degree of agglutinating power is probably never attained and in some it appears to be absent. Stricker, in fact, states that the reaction never appears in this class of case, but this is undoubtedly too sweeping an assertion, as an undoubted and characteristic reaction in a dilution of 1 in 25 was obtained in two such cases. 5. The reaction, as a rule, is most marked in those severe cases characterised by an early and favourable crisis, and in such cases it disappears very slowly, having been shown to be present as late as the fifth month after the primary illness.

Other methods.—The technique just described is, however, perhaps unnecessarily complicated, as in order to avoid any possible source of fallacy a number of precautions were adopted which later experience showed to be superfluous. The initial difficulty—the preparation of a perfectly homogeneous bacillary emulsion—having been overcome, an almost precisely similar technique to that employed in the ordinary Widal reaction may be adopted. As already stated, the dilution of serum with emulsion can be carried to a much higher degree and the time-limit considerably shortened when the microscopical method is employed. By this means reactions in which the bacilli are completely agglutinated in from five to 10 minutes are fairly common with potent sera in dilutions of 1 in 10 and 1 in 25. If, however, the dilution be carried further it is absolutely necessary for trustworthy results to observe the reaction in hanging-drop preparations. In this way well-marked reactions have been obtained in dilutions of 1 in 200 with a time limit of two hours, though preparations made between an ordinary slide and cover-glass showed no evidence whatever of any agglutinative process. The time-limit may be safely extended to 24 hours if the edge of the cover-glass be sealed with vaseline. By this method a reaction can often be demonstrated with sera of feeble agglutinative power or with potent sera which have been highly diluted. As a control experiment preparations of (1) emulsion and (2) emulsion plus normal serum have been kept for over a week without any signs of undoubted agglutination supervening. Numerous observations of plague sera in progressively increasing dilutions have been made and the time-limit in each case has been carefully noted. The data so obtained may be compared with those got by the sedimentation test at corresponding periods. To illustrate this the results obtained by this method from two severe cases of plague terminating in recovery (Table III.) are exhibited in the accompanying table (Table VI.).

Like results may be obtained with similarly prepared emulsions of dead plague bacilli, but in this case the reaction is not so reliable, as the dead organisms are not agglutinated so readily. When working with dead cultures, however, the microscopical is to be preferred to the sedimentation method, since it yields more trustworthy results even in higher degrees of dilution. In the absence of facilities for obtaining a homogeneous emulsion of living or dead bacilli Haffkine's prophylactic (which contains the latter) may be used to dilute a suspected plague serum. No satisfactory reaction, however, has been got by this means in a higher dilution than 1 in 25, and the sedimentation method is alone applicable owing to Haffkine's prophylactic being a bouillon culture. This last method can only be regarded as a makeshift.

Concluding remarks.—From the point of view of hygienic administration the very mild cases of plague are of the utmost importance. The analogy presented by all other infectious diseases indicates that such cases must be regarded as of equal importance with the more severe forms in the possible dissemination of the disease and constitute therefore a grave source of danger to the community. It is well known that epidemics of measles, scarlet fever, and diphtheria are frequently preceded by a type of the disease so mild that many cases are allowed to remain untreated, and it is interesting to note that several of the outbreaks of plague in the East have been heralded by the mildest possible form of the disease. Moreover, the difficulties attendant on a successful exploratory puncture of a small deep-set gland are sufficiently obvious and any other means

TABLE V.—CASES OF PESTIS AMBULANS.

Name.	Age.	Day of illness on admission.	Date of serum examination.	Result of bacteriological examination.	Amount of serum (Yersin) injected.	Dilution of serum with emulsion of bacillus pestis in proportions of—			
						1 in 10.	1 in 25.	1 in 50.	1 in 75.
Nellie R.	21	Second day.	Third week.	+	10 c.c.	+ f	+ f	–	–
Agnes R.	3½	First day.	Second week.	–	–	+	+	–	–
Arch. D.	18	Seventh day.	Fourth week.	–	–	+	+	–	–
William M.	3	Fifth day.	20th day.	–	–	–	–	–	–
Jeanie M.	14	Second day.	Second week.	–	–	–	–	–	–
Annie McK.	12	Second day.	Second week.	–	–	–	–	–	–
Pat. McG.	18	Second day.	Fourth week.	–	–	–	–	–	–

TABLE VI.—MICROSCOPICAL SERUM AGGLUTINATIONS.

Date of serum examination.	Dilution 1 in 10.	Time.	Dilution 1 in 25.	Time.	Dilution 1 in 50.	Time.	Dilution 1 in 75.	Time.	Dilution 1 in 100.	Time.	Dilution 1 in 150.	Time.	Dilution 1 in 200.	Time.	Dilution 1 in 300.	Time.
Thomas H.																
Fifth week ...	+ +	5 mins.	+ +	10 mins.	+ +	15 mins.	+ +	30 mins.	+ +	1 hour.	+	45 mins.		—	–	—
Eighth week ...	+ +	5 mins.	+ +	10 mins.	+ +	15 mins.	+ +	20 mins.	+ +	1 hour.	+	1 hour.	+	2 hours.		—
Eleventh week	+ +	5 mins.	+ +	20 mins.	+ +	30 mins.	+ +	45 mins.	+ f	1 hour.	+	1 hour.	+	1 hour.	+ f	2 hours.
Four and a half months	+ +	10 mins.	+ +	30 mins.	+	1 hour.	+ +	—	+ f	2 hours.	–	18 hours.		—		—
Charles M.																
Fourth week ...	+ +	5 mins.	+ +	10 mins.	+	1 hour.	+	2 hours.	+ f	12 hours.	–	18 hours.		—		—
Sixth week ...	+ +	5 mins.	+ +	10 mins.	+ +	45 mins.	+	2 hours.	+ f	2 hours.	+ f	4 hours.		—		—
Eighth week ...	+ +	5 mins.	+ +	15 mins.	+ f	2 hours.		—		—		—		—		—
Four and a half months	+ +	20 mins.	+ +	30 mins.	+ f	2 hours.		—		—		—		—		—

of arriving at a definite conclusion as to the nature of an obscure glandular swelling is certainly entitled to the most careful consideration.

In the severer forms of the disease the possibilities of a serum diagnosis are much greater. It has already been shown that during the early stages of the illness the agglutinative properties of the blood are but freely developed and that unless a careful technique be adopted for its demonstration the reaction is liable to be missed altogether. After the second week of illness, however, and particularly in those cases where the bubo undergoes resolution, the chances of obtaining the bacillus by puncture of the gland diminish rapidly during convalescence. This fact is well illustrated by the last three cases in Table IV., in which attempts to cultivate the organism by this method at the end of the first, second, and third weeks of illness respectively completely failed, though numerous degenerated bacillary forms were seen in smear preparations. Indeed, in the case of Mrs. M. (Table III.) culture tubes inoculated on the eighth day of illness with fluid obtained from puncture of the bubo proved sterile, though two days previously an actively growing pure culture had been obtained. On the other hand, the agglutinative power of the serum, insignificant at the commencement of the illness, progressively increases up to the sixth or seventh week of the disease, by which time a comparatively high degree of potency has been attained, especially in the severer forms of the disease which recover. Thereafter it begins to decline, but, as already shown, may be present in well-marked cases four or five months after the primary illness. It is therefore during and subsequently to the stage of convalescence, when the possibility of a bacteriological diagnosis is more or less remote, that the diagnostic value of the reaction becomes most apparent. In all cases, moreover, associated with the presence of glandular enlargements of dubious nature, the occurrence of which from time to time during the progress of an epidemic of plague may present a diagnostic problem of perplexing character, the application of this reaction cannot fail to prove of signal service.

Glasgow.

SUGAR-FREE MILK AS A FOOD FOR DIABETICS.

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THE difficulty often presents itself in practice of providing a patient suffering from diabetes with a diet which, while wholly free from carbohydrate, can yet be taken without repugnance for a prolonged period of time. The essential point of such a diet is that its nutritive constituents must consist only of proteid and fat. As far as possible most of the energy which it yields must be derived from fat, for there are certain risks and disadvantages incidental to an excessive consumption of proteid. But, unfortunately, it is often difficult to persuade a diabetic to eat enough fat. Bacon he can usually manage and a certain amount of fat meat and fish, and perhaps even some salad oil, but the necessary exclusion from the diet of bread and potatoes renders it difficult to administer even moderately large quantities of that most easily digested of fats—butter. A little can be got down on some variety of starchless bread or in the form of sauce with fish or mixed with green vegetables, but in many cases the most that can be managed in these ways does not exceed three or four ounces daily.

Now, in milk we have fat and proteid in a form in which they may be easily taken and are readily digested, while the special form of proteid present in milk (casein) has the additional advantage that it is not capable, as most proteids are, of yielding sugar in the body. Unfortunately, however, milk itself contains a carbohydrate in considerable amount (4 per cent.), and though it may be true that in *some* cases milk-sugar is better borne than most other forms of carbohydrate, yet it must be remembered that, as experiment has shown, lactose is not directly assimilated in diabetes. Experience shows, too, I think, that in the majority of such patients the addition of milk to an otherwise strict diet increases the amount of sugar in the urine and coincidently with that aggravates the thirst and the other symptoms which are due to the presence of an excess of sugar in the blood. It is not surprising, therefore, that attempts have from time to time been made to get rid of the sugar in milk whilst retaining its other ingredients. In standard works on diabetes a description of several such sugar-free milks will be found, but hitherto they have not found very general acceptance, partly, perhaps, because they are troublesome to make at home and it has not as yet been possible to buy them ready-made. I have described elsewhere[1] a sugar-free milk prepared for me by Mr. Morris, chief dispenser to the London Hospital, which has now been brought to a very high degree of perfection and which can be obtained for use at home in a sterilised form.[2] This milk contains all the original casein and salts along with a certain additional proportion of fat. It is practically sugar-free and can hardly be distinguished from a rather rich specimen of ordinary milk. It can be readily administered either plain or with some effervescing water or it can be added to tea, coffee, or cocoa. It has also the advantage that it can be made into boiled or even baked custards with eggs, thus rendering it possible to add a nourishing and harmless "sweet" course to the diabetic patient's dinner. Assuming that it contains about 3 per cent. of proteid and 5 per cent. of fat and that three pints are taken in one form or another in the course of a day, the total energy yielded will be about 990 calories or almost one-third of the total amount required, while the amount of fat which the patient gets is equivalent to fully three ounces of butter. I have had this form of milk in constant use in hospital practice for more than a year and have found it of the greatest service. It is specially useful in those cases in which it is desirable to observe as strict a diet as possible, but even in those instances in which it is decided that a limited amount of carbohydrate can be taken with advantage it will be found best to substitute sugar-free milk for ordinary milk and to give the allowable quantity of carbohydrate in the form of potatoes and bread. This plan is not only more satisfactory to the patient, but it has also the advantage of enabling one to administer larger quantities of butter. The scheme of a strict diet which includes the use of this milk would be something as follows:—

Breakfast.—Bacon; eggs scrambled with butter; fish and butter sauce or some form of cold meat; toasted protene bread with plenty of butter; and café-au-lait made with sugar-free milk and sweetened with saccharin if desired.

Dinner.—Soup (without vegetables or other carbohydrate containing matter); fish (preferably one of the fatter sorts); meat with green vegetables and melted butter; custard of eggs and sugar-free milk; and cheese with protene bread and watercress. Beverage: whisky-and-water or any dry natural wine.

Supper.—A cup of well-made beef tea; eggs in some form—e.g., as an omelette with as much butter as possible; fish or cold meat; and cheese with protene bread-and-butter and a salad with plenty of salad oil. Beverage: a glass of sugar-free milk.

The rest of the milk, sufficient to make the total daily allowance up to three pints, should be taken as a beverage between the chief meals.

The above diet is, of course, merely an outline which can be modified to suit the taste of individual patients, but it will be found to answer very well in practice and is practically free from carbohydrates. I have recently had a patient on it who was passing on an ordinary diet more than 300 grammes of sugar per day and who on the above diet had an excretion of only about 25 grammes and gained weight rapidly. The attainment of this result was greatly facilitated by the use of sugar-free milk, and my object in writing this short article is to try to make the merits of the latter more widely known among the profession.

London Hospital.

THE VALUE OF ANTITOXIN IN THE PREVENTION OF DIPHTHERIA.

BY A. E. PORTER, M.D., D.P.H. CANTAB.

IN the belief that the prophylactic administration of antitoxin is not so largely used in this country to prevent the extension of diphtheria among inmates of infected houses and institutions as its success seems to warrant, I hope that the following account of cases in which it has been employed and which have come under my notice as assistant to the medical officer of health of the County of Essex and of the

[1] Food and the Principles of Dietetics. London: Edward Arnold. Second edition, 1901, p. 474.

[2] Prepared by Messrs. Clay, Paget, and Co., 23, Ebury-street, S.W.

combined rural districts of Chelmsford and Maldon may be of interest not only to medical officers of health, but also to those members of the profession who are engaged in general practice.

During the past 12 months diphtheria of a virulent type has been extremely prevalent throughout the greater part of Essex, and the Chelmsford and Maldon rural districts have suffered severely in this respect. With a view of attempting to check the epidemic the councils of the two districts have lately agreed to pay to medical practitioners a small sum for each prophylactic injection of antitoxin given with the sanction of the medical officer of health on the occurrence of a case of diphtheria in a household. Up to the present this practice has been adopted in 24 families, with the gratifying result that, with one possible exception, not a single person so injected has subsequently developed diphtheria, notwithstanding the fact that two-thirds of the cases were treated at home. In eight instances the injection was refused, and amongst these there were three subsequent cases of diphtheria. One of the houses (No 3) was a home for orphan children; all the remainder, with two exceptions, belonged to members of the labouring classes; many of them contained but two sleeping-rooms, and these frequently communicated with one another. Wherever there was any doubt as to the nature of the case a bacteriological examination was made to confirm the diagnosis. Of the 136 persons thus protected 60 were adults of 20 years of age and upwards. The remainder were children chiefly at about the school age, and swabs from the throats of many gave almost pure cultures of the diphtheria bacillus on blood serum.

The following is a tabular list of the families to whom prophylactic injections were administered:—

TABLE I.

Family.	Number of cases notified before injection was given.	Number of members in family to whom prophylactic injections were given.	Number of persons thus injected who subsequently developed diphtheria.	Number of persons to whom no injection was given.	Persons not injected who subsequently developed diphtheria.	Remarks.
No. 1 ...	1	4	0	2	2	Not removed to hospital.
,, 2 ...	1	6	0	2	1	,, ,,
,, 3 ...	2	17	0	2	0	,, ,,
,, 4 ...	1	2	0	1	0	,, ,,
,, 5 ...	4	1	0	—	—	,, ,,
,, 6 ...	2	8	0	—	—	,, ,,
,, 7 ...	1	7	0	—	—	Removed to hospital.
,, 8 ...	1	7	0	—	—	,, ,,
,, 9 ...	1	8	0	—	—	,, ,,
,, 10 ...	2	6	0	—	—	One case (only) removed to hospital.
,, 11 ...	3	6	0	—	—	Removed to hospital.
,, 12 ...	1	9	0	—	—	Not removed to hospital.
,, 13 ...	1	4	0	—	—	,, ,,
,, 14 ...	1	5	0	—	—	Removed to hospital.
,, 15 ...	1	2	0	—	—	,, ,,
,, 16 ...	1	6	0	—	—	Not removed to hospital.
,, 17 ...	1	8	0	1	0	Removed to hospital.
,, 18 ...	1	7	0	—	—	Not removed to hospital.
,, 19 ...	1	3	1 (?)	—	—	,, ,,
,, 20 ...	1	3	0	—	—	,, ,,
,, 21 ...	1	3	0	—	—	,, ,,
,, 22 ...	1	4	0	—	—	,, ,,
,, 23 ...	1	5	0	—	—	,, ,,
,, 24 ...	1	5	0	—	—	,, ,,
Total	—	136	1 (?)	8	3	—

In No. 19 the mother of a child suffering from diphtheria received a prophylactic injection and in a few days suffered from sore-throat. As she was nursing the case, which was a severe one and terminated fatally in a few days, it is probable that she too caught the infection. The attack was, however, so mild that she was scarcely prevented from attending to her household duties, and she escaped notification. There was, therefore, only one failure, and that a doubtful one, out of 136 cases in which prophylactic injections were given.

For purposes of comparison I have drawn up a second table showing the number of secondary cases occurring in another series of 24 families, taken consecutively from our notification records before the prophylactic injections came into force. The number of individuals in the families is approximately the same, as is also the proportion of adults, of whom there were 53. It will be seen that in one-third of the houses secondary cases occurred and that one-sixth of the inmates contracted the infection in the absence of the prophylactic injections, in spite of the fact that a larger number of the primary cases were promptly removed to the hospital. This series of families has in no way been specially selected, and the proportion of houses in which secondary cases have occurred has practically obtained throughout the present epidemic.

TABLE II.

Family.	Number of primary cases.	Number of persons in family excluding primary cases.	Number of secondary cases.	Remarks.
No. 1 ...	1	2	0	Not removed to hospital.
,, 2 ...	1	6	0	,, ,,
,, 3 ...	1	2	0	Removed to hospital.
,, 4 ...	1	4	3	,, ,,
,, 5 ...	1	7	0	Not removed to hospital.
,, 6 ...	1	6	3	,, ,,
,, 7 ...	1	5	0	Removed to hospital.
,, 8 ...	1	3	0	,, ,,
,, 9 ...	2	8	2	,, ,,
,, 10 ...	1	3	0	,, ,,
,, 11 ...	1	8	4	Not removed to hospital.
,, 12 ...	1	3	0	,, ,,
,, 13 ...	1	6	0	,, ,,
,, 14 ...	1	7	0	,, ,,
,, 15 ...	1	4	0	,, ,,
,, 16 ...	1	5	1	Removed to hospital.
,, 17 ...	1	5	1	Not removed to hospital.
,, 18 ...	1	7	1	Removed to hospital.
,, 19 ...	1	5	0	Not removed to hospital.
,, 20 ...	1	4	0	Removed to hospital.
,, 21 ...	1	4	0	,, ,,
,, 22 ...	1	9	6	,, ,,
,, 23 ...	1	7	0	Not removed to hospital.
,, 24 ...	1	5	0	,, ,,
Totals...	—	125	21	—

No doubt similar instances of the efficacy of this mode of prevention could be indefinitely multiplied. A striking example is mentioned by Mr. J. Damer Priest, medical officer of health of the Waltham Holy Cross Urban District Council, in his annual report for 1900. Three cases of diphtheria occurred at short intervals in a convalescent home for children situated in his district. The remaining 35 children were injected and there were no further cases.

In America this method of treatment is adopted on a large scale. In the city of New York, between Jan. 1st, 1895, and Jan. 1st, 1900, no less than 6806 persons who had been exposed to infection were given prophylactic doses by the officers of the Board of Health; of these 19, or less than 0·3 per cent., afterwards contracted diphtheria, and only one of them, who was suffering from a simultaneous attack of scarlet fever, died.

The success which attended the methods adopted in arresting the recent outbreak of diphtheria in the borough of Cambridge is still fresh in our memory, and the report by the medical officer of health (Dr. Bushell Anningson) is well worthy of study by all those who are interested in preventive medicine. Unfortunately, it cannot be claimed

that an injection of antitoxin will prevent an attack of diphtheria with absolute certainty, but it will undoubtedly do so in a large proportion of instances, and, if diphtheria should occur, the attack will in all probability be a mild one. As to what constitutes an efficient dose authorities differ. By some 300 units are considered sufficient, whilst others inject 800 to 1000 units. Our practice in the Chelmsford and Maldon rural districts has been to give 500 units, and so far with satisfactory results. Such a dose can usually be obtained in a bulk of about 20 minims and a hypodermic syringe may therefore be used for the purpose. With 500 units it is rare to experience any serious after-effects if the injection be made in the loin or between the scapulæ. With larger doses the rash and the joint pains occasionally associated with the use of antitoxin are sometimes met with, their occurrence being due to the particular batch of serum used and possibly to individual idiosyncrasy. As a rule there is a slight rise of temperature and occasionally a feeling of malaise and nausea within 24 hours of the operation, often followed by some irritation round the seat of injection. The first three symptoms quickly pass off, the last may persist for a few days. If, however, the serum be injected into the arm sequelæ are frequent and consist chiefly of inflammation and œdema, together with stiffness of the joints and intense irritation.

It is important to bear in mind that where antitoxin is used as a prophylactic in persons who are actually harbouring the diphtheria bacillus, although the clinical symptoms may be averted, the throats are none the less infective—at all events the bacilli may, in my experience, remain for weeks. Hence such persons are still liable to become foci of infection and should be prevented from spreading the disease until sufficient time has elapsed to eliminate the danger or until they are shown by bacteriological methods to be free from infection.

As a result of my experience detailed above I believe that we possess in antitoxin a valuable means of preventing the onset of diphtheria in persons who have been exposed to infection, and that it is of especial benefit where it is impossible properly to isolate a primary case, or when the infection is introduced into an institution in which a number of susceptible individuals are congregated.

Chelmsford.

THE ROENTGEN RAYS IN SOUTH AFRICA.

BY J. HALL-EDWARDS, L.R.C.P. EDIN.,

SURGEON RADIOGRAPHER TO THE GENERAL HOSPITAL, BIRMINGHAM, AND TO THE IMPERIAL YEOMANRY HOSPITALS AT DEELFONTEIN AND PRETORIA, SOUTH AFRICA.

AN experience of 14 months as x-ray expert to the Imperial Yeomanry Hospitals at Deelfontein and Pretoria has amply proved the immense usefulness of Roentgen's discovery as applied to military surgery. On starting from England I had already formed some idea as to the extent to which my speciality might be of service, but my wildest anticipations were exceeded and my preconceived notions born of ignorance, and backed up by the officials at the War Office, have proved to be incorrect and absolutely unsatisfactory. On information received from certain pseudo-reliable sources I was convinced that so few bullets found their billets in the tissues of the wounded that an x-ray outfit would prove an incumbrance instead of a help, and although I had some hopes that my ideas might prove incorrect I entered upon my task with fear and trembling. These fears were magnified when on reaching Cape Town we were informed that Cronje had been captured and Ladysmith relieved and that the war could not last more than a few weeks. This last statement, like those received at home, was far from true, and whilst it was given in good faith, it was the child of ignorance, born in the cradle manufactured by our Intelligence Department.

I well remember remarking to an officer (on the Government landing-stage at Cape Town), who had been my companion since leaving England and who was wishing me adieu and success, "that if I could take back with me five negatives showing the presence of bullets, I should consider my visit to South Africa more than justified." It would be exceedingly difficult even to guess the percentage of retained bullets in all gunshot wounds, but there can be no doubt that it is far higher than is generally imagined, although taking into consideration the number of wounds received it must be very small. My own figures cannot, of course, be taken as any guide, inasmuch as I only radiographed cases specially sent to me for the purpose, a large majority of the cases admitted to the hospital not being of sufficient interest to warrant the taking of a radiograph. In several of these bullets which could be localised by palpation were removed without the aid of the x rays and they therefore take no part in my calculations. In all, 193 cases of gunshot or shell wounds were submitted to me and in 65 of these there were found and localised, either a whole bullet, portions of a bullet, or fragments of shell. This is, of course, an exceptionally large percentage which can only be accounted for by the assumption that many cases in which the presence of a bullet was suspected were sent to us for the purpose of having them localised. It is absolutely impossible to form any idea of the percentage of retained bullets in wounds received; neither can I satisfy myself as to the range at which most bullets are retained. Bullets which are nearly spent have, of course, the greatest chance of remaining in the tissues, but the ranges given in my notes are so various that many other circumstances must combine to diminish the penetrative power, even at distances where under ordinary conditions they would pass through the body. In previous articles on this subject I have pointed to some of these and a careful perusal of the accompanying table may suggest others.

List of Cases of Injury, with Bullets, Portions of Bullets, and Fragments of Shell, Radiographed at the Imperial Yeomanry Hospitals at Deelfontein and Pretoria, between March 19th, 1900, and March 31st, 1901.

Parts injured.	Number of cases radiographed.	Number of cases in which foreign bodies were localised.	Parts injured.	Number of cases radiographed.	Number of cases in which foreign bodies were localised.
Eye...	3	1	Spine	1	1
Head	11	1	Back	5	3
Neck	2	1	Pelvis	6	4
Chest	18	7	Thigh and hip	30	18
Shoulder ...	10	1	Knee	8	3
Arm	13	4	Leg	16	8
Elbow	14	2	Ankle		0
Forearm ...	10	1	Foot	18	2
Wrist	3	0			
Hand	19	8	Total... ...	193	65
Abdomen ...	2	0			

The list here given is not a long one, but is must be remembered that in most of these cases the presence of a foreign body was suspected. Many other cases were examined in order to ascertain the amount of injury sustained by bone during the passage of bullets through it, and in addition to several medical cases over 50 accidental fractures were radiographed. Again, during the greater part of our stay in the Karroo we were to all intents and purposes a base hospital, and all the cases had filtered through other hospitals before coming to us. It was only during the last two months that we received any wounded straight from the field, and curiously enough none of these came into my hands.

The list is exceedingly interesting in showing that by far the larger majority of bullets retained in the tissues are found between the ankle and abdomen, whilst the upper extremities are comparatively free, with the exception of the hand. Here only in one instance was a whole bullet retained, the remainder being in the main splinters from bullets which had struck stones in front of the fighting line, and as in most cases the men were lying down the hands and heads were chiefly exposed. Where the head was struck the result was in a very large majority of instances fatal, although a good number of these escaped, as is shown by my figures. In nearly every instance where a bullet was retained in the hip or thigh the whole of the missile was found. In more than three-fourths of the cases in which foreign bodies were localised they were removed by the operating surgeons and in no single instance was the

object sought after missed. The position of the bullet was marked upon the skin and the depth from the skin was accurately ascertained. The only difficulty that can possibly arise after an exact and carefully made localisation where the bullet is near the bone is (even when the depth from the surface is known) that of deciding whether or not it is embedded in the bone itself. To decide this without preparing a pair of stereoscopic prints one must rely entire upon one's knowledge of anatomy; not that it is of very great consequence, for having decided that it is better for the patient that the bullet should be removed it is only necessary to be prepared for possibilities. A case in point occurred in a young soldier who was shot in the neighbourhood of the hip-joint. An x-ray localisation showed the bullet apparently lying across the neck of the femur, at the depth of five and a half inches from the buttock. A long consultation failed to show its exact position in relation to the bone, but it was decided to operate. The surgeon cut down upon the spot and found the bullet firmly embedded. It was removed and the patient made a complete recovery. Had it been possible to prepare a pair of pictures which could have been viewed in the reflecting stereoscope the question would have been at once settled, for by this method the exact relations would have been seen. The preparation of such pictures, of course, involves considerable trouble, but I am more than ever convinced that a reflecting stereoscope must in future form part of a base hospital equipment, for although in most cases measurements are amply sufficient there are undoubtedly occasions when it would prove of the greatest possible use.

Localisation by means of the x rays is based upon mathematical calculations and is so absolutely correct that I cannot imagine any surgeon even daring to consider any other method. Yet I am constantly hearing of the telephone probe, the latest competitor in the field of prehistoric instruments which even under the old conditions of warfare were bad, and under the new are worse than useless. There is no position in the body in which a bullet cannot be found and exactly localised by means of the x rays. Moreover, this can be done without disturbing the patient or subjecting him to anything but the slightest inconvenience for at the most 10 minutes. He runs no risk of infection from dirty probes and the results are absolute. The telephone probe is alone useful for finding a bullet when its position is known, and may on occasion prove of slight assistance during an operation when the bullet is in a difficult position to get at and cannot be seen. I am pleased to say that at The Imperial Yeomanry Hospital the telephone probe was never used, and yet in every instance in which the operating surgeon was called in the bullet was found.

In a previous article published in THE LANCET of Jan. 12th (p. 130) I drew attention to the inefficiency of the x-ray arrangements made by the War Office, and it is only since my return home that I have seen the reply of Colonel W. F. Stevenson, R.A.M.C., in which I am pleased to see that he quite agrees with me, that if an x-ray specialist is to be of any service he must devote the whole of his time to the subject. As regards the x-ray department which I am informed exists, I would like to ask how it is that experts were not turned out from there? and why it was necessary to employ laymen to do the work? Surely the fact than an expert must spend his whole time at the work should have been recognised years ago. Again, as regards (what I still dare to call) the so-called experts. I have before me three letters from the War Office, dated respectively Oct. 31st, Nov. 23rd, and Dec. 30th, 1899, informing me that experts were not required. Again, late in January, 1900, my services were refused, whilst those of medical students and manufacturers of apparatus were accepted at the princely income of £200 per annum. I do not wish to argue for one moment that these men have not done good work; but I again say that they can in no way be considered as experts.

I did not say that the apparatus sent out by the War Office was not good or that an insufficient number of sets were supplied, but I know that some of the sets were never used, whilst others were only used occasionally. During the whole of my stay at Deelfontein there was an apparatus at De Aar which I was told on the authority of the principal medical officer was never used. On the occasion of my first visit to Kimberley I found a gentleman in charge who was uninformed as to the use of the localising apparatus; and since then I have received a letter from another gentleman in charge of the same department asking me to give him some instruction. At a large hospital in Pretoria I found the Mackenzie-Davidson cross-thread localiser was being used as a developing table upon which the staff developed their Kodak films and, finally, I left my department at Deelfontein with no one in charge. These facts speak for themselves, and yet I am told that the War Office has a properly equipped x-ray department. In laying these facts before the readers of THE LANCET I have no intention of injuring or hurting anyone's feelings, they are written with the hope of bringing about a better order of things; and when the much-talked-of reform in the Army Medical Department is brought about I trust that this most useful adjunct to military surgery will not be forgotten.

That our x-ray department proved a success has already been testified to by our senior surgeon (Mr. A. D. Fripp, C.B.), who in his letters to the medical press has described it as "the most useful department in the hospital"; and I am sure that Mr. Raymond Johnson, Mr. H. A. Ballance, Mr. William Turner, and Mr. A. P. Parker would admit that some of the best surgery was the outcome of work done there; and I, moreover, feel certain that the figures herein published will go to prove that as an aid and necessity to military surgery the x rays must take the premier position.

Birmingham.

ANEURYSM OF THE SUBCLAVIAN AND AXILLARY ARTERIES: LIGATURE OF THE SECOND PART OF THE SUBCLAVIAN.

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AND
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A MAN, aged 36 years, was admitted into the Manchester Royal Infirmary on Dec. 12th, 1900, complaining of "swelling of the main artery of the left arm." The appearance of the patient was that of a strong vigorous man, giving no history and presenting no signs of syphilis. His occupation necessitated the occasional lifting of heavy sacks of flour (240 lb.). He told us that in May, 1900, he first noticed pain in the left shoulder over the acromion, which was worse in the evening than on rising in the morning. He had the shoulder rubbed and as the pain disappeared entirely in two or three weeks he thought no more of it until in September the pain returned in greater severity. At first the trouble was looked upon as rheumatic, but in December the presence of aneurysm was recognised and he was sent to the infirmary.

On admission on Dec. 12th, the patient complained of pain in the left acromial region shooting down the arm into the left breast and the back of the neck. On examination there was found to be no difference in the muscular power of the two arms and hands and there was neither wasting nor œdema of the left hand and arm. Sensation, too, was quite normal. In the left clavicular region there was an extensive swelling stretching some distance above and below the clavicle and so prominent that the outer two-thirds of the clavicle were not apparent on inspection. Pulsation could be observed over the whole swelling. On palpation the swelling was found to be more extensive below than above the clavicle and to be both expansile and pulsatile. The swelling could be grasped by one hand just beneath the clavicle with the other pressing deeply in the axilla when the expansile pulsation could be felt in the axilla, which could also be felt in the posterior triangle of the neck. On compressing the third part of the subclavian artery between the finger and the first rib pulsation in the tumour was completely stopped, but the artery in its third part was evidently dilated. On percussion there was a dull area on the left side of the chest extending from the clavicle to one and a half inches below it and from the anterior axillary fold to within three and a half inches of the middle line of the body. On auscultation a harsh systolic bruit could be heard.

An operation was performed on Dec. 19th. The patient

was prepared for this in the ordinary manner and chloroform was administered. The head was then pushed over to the right and the left arm was brought down to the side. An incision four inches long was made at the upper margin of the clavicle, between the attachments of the trapezius and sterno-mastoid muscles, dividing the skin and superficial fascia. The platysma and deep fascia were divided, the external jugular vein being exposed and divided between ligatures, as was also the supra-scapular vein. The posterior belly of the omohyoid then came into view and was found to be much lower down than usual, with the subclavian artery high up. At this step the skin incision was enlarged and the clavicular origin of the sterno-mastoid was partially divided. The posterior belly of the omohyoid was retracted upwards and the scalenus anticus, which now came into view was retracted forwards. The subclavian artery in its third part was then distinctly seen and by following this upwards the second part was found to be of normal diameter, but the third part was greatly dilated. The second part of the subclavian artery was then compressed and pulsation in the positions in which it had previously been palpable and in the dilated portion of the artery at once ceased.

After opening the sheath of the artery an aneurysm needle was passed round the second part of the artery from below upwards and threaded with "pedicle" silk and two ligatures were passed. The ligature nearest the heart was first tied, as far from the aneurysm as possible, and the second ligature was tied close to it. Both these ligatures were tied in such a manner as to approximate the arterial walls without rupturing their coats and the free ends of the ligatures were tied together. All bleeding from the small vessels that had not been previously controlled was stopped and the wound was well washed out with biniodide of mercury lotion of the strength of 1 in 6000. The edges of the wound were then brought into apposition with silk sutures and the wound was dressed with dry dressing. The whole of the left hand and arm was then covered with cotton-wool and lightly bandaged with domette bandages and the limb was supported across the chest.

As there were no unfavourable symptoms the dressings were not removed until Dec. 30th, the eleventh day after operation, when it was found that the wound had completely healed; the sutures were removed and light dressing was applied. The aneurysm was much smaller in size and no longer pulsated. The radial pulse had not yet returned. On Jan. 26th, 1901, the patient was discharged from the infirmary convalescent; the circulation in the left arm and hand was good, though the radial pulse had not yet returned. There was no sign of pulsation in the site of the aneurysm. When seen on Feb. 26th there was still a slight bulging in the position of the aneurysm, but this swelling was firmer, harder, and non-pulsatile. There was now very slight pulsation in the left radial artery. The patient was advised still to make use of a sling but to attempt slight movements of the arm and hand.

Remarks by Mr. WRIGHT.—From the notes (for which I am indebted to my then house surgeon, Mr. Wrigley) it will be seen that it was necessary to tie the second part of the subclavian in this case on account of the dilatation of the third part of the artery. This was not much more than a nominal difference as extension of the wound forwards and retraction of the scalenus enabled us to reach a very high artery at a point where it was healthy. We were anxious as to the condition of the artery beyond the ligature since it was greatly dilated, but the dilatation began somewhat suddenly and the part tied was natural in size. Thick silk was used and the principle of the "stay knot" was adopted without division of the coats of the vessel. The thick "pedicle" silk made a somewhat bulky ligature, but healing went on without trouble. We had the advantage of the help of Mr. A. H. Burgess, now surgeon to Crumpsall Hospital, at the operation.

WESTMINSTER HOSPITAL FESTIVAL DINNER.—On June 12th the Duke of Buccleuch presided at the festival dinner of this institution at the Salters' Hall, St. Swithin's-lane, E.C. The chairman, in proposing the toast of the evening, said that several additional rooms for scientific purposes had been added to Westminster Hospital in recent years and he thought that at the present time the hospital might be considered equal to all modern requirements. During the evening the secretary announced contributions amounting to about £8500.

MEAT PREPARATIONS: THE POSSIBILITIES OF MYOSIN ALBUMIN.

BY F. W. FORBES ROSS, M.D. EDIN., D.P.H. R.C.P.S. LOND.

FOOD problems at the present time possess a peculiar interest alike for the medical and the lay mind. The main desiderata are: for the former, physiological efficiency, nutritive, formative, reparative, and stimulative powers in all directions compatible with the minimum of effort in assimilation; for the latter, efficiency, cheapness, and portability. From the above two points of view nothing comprised in the dietary of mankind possesses so many points of technical interest as meat, particularly those qualities of a meat diet mentioned above. This is especially the case when dealing with preserved meat preparations or preparations of meat which are not readily and easily made and are therefore kept put up in specially desired forms ready for consumption at a moment's notice.

Extractive compounds.—The more commonly obtainable and popular preparations, or meat extracts, are all slight variants of, and are made from, a single preparation which is mainly composed of urea, uric acid, sarcolactic acid, creatin, creatinin, xanthin, hypoxanthin, taurin, &c. These elements, belonging as they do to the waste-product compounds, possess properties which are mainly stimulative; their action rests mainly in calling up effort from already stored energy to which they could only very partially if at all contribute, the effort of the organism being for the most part aimed at their excretion and expulsion. This effort can at times be voluntarily switched off, so to speak, from being an effort of excretion into a motor or mental channel. From the above it can easily be seen that their effect when partaken of can only be one of very short duration; indeed, the more frequently the dose be repeated the shorter become the periods of their functional utility—that is, provided they are not at the same time reinforced by food substances the functions of which are mainly nutritive, formative, and reparative, in order to repair the wear and tear which are the results of forced energy brought about by the administration of extractives. Eventually, if their sole administration be continued, they begin at last actively to exhaust and to break down tissue, because having used up stored materials and energy they make demands for their excretion which must be and are answered by destructive metabolism of formed tissue existing within the organism and if now the excretory power fails they accumulate and become poisonous. This is easily demonstrated by the dieting of dogs, some on stimulant extractive alone and others on stimulant extractive in combination with nutritive and formative albuminous meat compounds, and then noting the results. The latter are not adversely affected, in some cases being distinctly benefited, whilst the former rapidly emaciate and die and are even outlived by dogs simply starved and only allowed water. The same is observed in the feeding of enteric fever patients on stimulant extractives alone, for in addition to the already heavy load of "waste products" incidental to their disease which demands removal any addition of a purely extractive diet is often followed by signs of exhaustion of excretive power, and symptoms of accumulated waste-product poisoning supervene.

I once personally experimented on a diet composed solely of commercial stimulant meat extract, but on the sixth day abandoned the attempt after a syncopal attack, the result of the deprivation of material to repair the wear and tear of tissue. Extractive meat preparations, like most other stimulants, are also to a certain extent irritants when given alone or in too great a proportion in combination. On patients suffering from gastric irritability, catarrh, &c., even on some healthy persons and children, stimulant extract will often act as an emetic, and if repeated will set up diarrhœa. This latter action is, perhaps, as much the result of its being in part irritant when strong, and stimulant to the excretory and motor functions of the intestine and liver, as to the fact that, according to Professor A. E. Wright of Netley,[1] much peptone entering the blood-stream at one time leads to outflow from the blood-vessels,

[1] Serous Hæmorrhage: THE LANCET, Sept. 19th, 1896 p. 807.

causing diarrhœa. The above also refers equally to the action of many peptonised meat preparations (albumoses) in producing diarrhœa if their administration be persisted in.[2] The stimulant extractive or waste product compounds of meat nevertheless occupy a position of utility within certain limits which is undoubted. If they act only as excitors of convertible energy they are useful in that they lead to functional activity which may be expended in assimilating the nutritive and formative components of meat provided the latter be present or obtainable.[3]

Gelatin.—Midway between the extractives and albumins from a dietetic point of view comes gelatin. Till recently gelatin was supposed to have little or no claim to functional nutrition, and at most was regarded as a substance used by the organism as a "stand-by" to prevent destructive metabolism of formed tissue in the absence of circulating surplus proteid.[4] Lately, however, opinion is more in favour of gelatin being after all of distinct food value, how much merely stimulant and how much really nutritive and formative is still a matter to be settled.

Albumins.—The albumins, globulins, and paraglobulins of muscle plasma have a distinct and decided function as nutritive, formative, and reparative agents. Their position as food substances in every acceptation of the term is indicated by their large proportion in meat food. Their near resemblance to the higher protoplasmic elements of the more elaborated nerve tissue, their close connexion therewith, their marked resemblance in saline constituents—e.g., phosphates—their complex functions as motor, heat-producing, oxidising, and waste-product destroying agents, all tend to point them out as food ingredients of the highest possible value. Albumins most probably play a great part in furnishing the materials of the various secretions. The above are all well shown in the defective functions and diminished vitality, debility, and chronic ill-health of persons whose muscular system has been allowed to fall into want of tone through disuse, and the prompt improvement which occurs on renewing their tone, bulk, and function by proper feeding, development, and exercise. The foregoing tends to point clearly to the great value and benefits to be derived from the use of the albumins of muscle as an addition to meat preparations intended for general consumption, in a condition as near their natural state as they exist in the living creature, unaltered by chemical or predigestive processes. The food best adapted for the maintenance of prolonged muscular effort and for the repair of the resulting wear and tear is a diet of meat albumin; hence the preference of those in "training" for "beefsteak," and the marked benefit to be obtained by feeding on myosin albumin in cases of heart-failure, especially in elderly persons who have been unable to eat meat and have taken to milk-slops owing to loss of teeth or badly fitting false teeth through senile absorption of the alveolar borders of the jaw.[5] Milk or casein albumin, though excellent as an article of diet for infants, does not furnish the necessary food equivalent for the adult. Milk is nature's food for the infant; muscularity is not the leading feature of the infant; muscularity is the distinctive feature of the adult; consequently milk cannot be safely assumed to be a satisfactory food substance for adults without reinforcement from other food sources. It is well known that milk as a sole article of diet cannot support life in an adult for a longer period than from four to six weeks. On the other hand, the albumins of meat can be given to children past the first year of life with benefit and safety during long periods. If the mixed albumins designated by the comprehensive term "myosin albumin" were extracted from meat and exhibited in various forms and combinations with or without suitable proportions of extractives and gelatin, they would lend themselves in a number of ways to the prospective solution of many problems. The system of manufacture of meat preparations now practised is to subtract one solitary constituent property from meat, and in some cases from blood, and that constituent not the most valuable, and then to speak of "concentration" which is really the reverse, as it amounts to "fractional distillation," resulting in the discarding of the more nutritive, formative, and reparative elements (albumins) in favour of the less useful stimulative elements which now masquerade as "concentrated meat extract."

Emergency rations.—The problem of an efficient emergency ration for soldiers, tourists, cyclists, travellers at home and abroad, and for anyone who desires to carry concentrated food of high nutritive value can be solved by the use of myosin albumin suitably combined and seasoned. Here the stimulant, nutritive, formative, and reparative constituents of fresh beef alone take the place of the more bulky canned meat with its 70 per cent. of fibrous matter, possessing little food value in comparative proportion. By this means one pound weight of steak can be carried in a made-up compound ration of four ounces in weight (nett), and be palatable and relatively of more utility under the circumstances than one pound of meat, as it can be digested and assimilated more easily. That there is need and room for such a ration is proved by a letter by Captain J. H. E. Austin, R.A.M.C.,[6] on the feeding of soldiers on the march, in which such a ration is demanded. At the same time a ration of myosin albumin lends itself to variety, for the ration can be made into good soup or stew with meal, pea-meal, biscuit, or desiccated vegetables.

In the treatment of disease myosin albumin can be used as a reinforcement to milk puddings for invalids, heart cases, &c., as it can be made absolutely tasteless. With boiled biscuit, egg, and cream it makes a delicious panada. When persons suffering from the effects of "gout" abstain from eating ordinary meat by reason of the uric acid and waste products it is said to contain in a free state, yet who need meat and the iron albumins of meat, as in senile heart failure cases, then the difficulty can be met, as myosin albumin can be so treated by dialysis, &c., as to free it from all natural extractive and waste products and so render it desirable as an article of diet for those of the gouty diathesis. In the treatment of enteric cases I have had opportunity of judging its action,[7] and have found it an efficient means of supplying the needed energy to carry on the functions and secretions of the body and at the same time to repair waste. In the treatment of tuberculosis the value of meat albumin is undoubted, not only as a means of repair, but also as a direct strengthener of the forces of resistance already present in the body. Dr. Parkes Weber[8] speaks highly of meat albumin in the treatment of tuberculosis, and so does Djvorack.[9] Héricourt Richet's[10] experiments on dogs are of value, though he attaches great importance to the rawness of the meat. In a case published by Dr. Fletcher Little and myself[11] in THE LANCET, myosin albumin was used with success prior to the prescription of the open-air treatment, and the case did remarkably well and the patient rapidly gained weight even after residence abroad had failed to benefit. Perhaps it is that, apart from the theory of natural somato-antitoxin, raw meat gives up its albumins quicker than does toughened cooked meat and that, as in the case above cited, if sufficient albumin at a time be forthcoming in response to a minimum of digestive effort, then the results will in all probability improve *pari passu*.

The foregoing will, I trust, serve to indicate the field of utility open to myosin albumin in food problems of the future, whether as emergency ration, general meat extract, or specific preparations for invalids and young persons. Hitherto it has been mainly absent, wholly or in part, from existing meat preparations, and where alleged to be present has been too expensive to suit any but the pockets of the richest. It yet remains to devise a suitable, cheap, and economical process for extracting and dealing with "myosin albumin" in bulk as a commercial proposition, and thereby to bring it within general reach as a constituent of meat preparations of the highest nutritive, formative, and reparative value.

Gower-street, W.C.

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[2] Loc. cit.

[3] Harry Campbell: Discussion (Address), Diet in Treatment of Disease, Brit. Med. Jour., Oct. 13th, 1900.

[4] M. Foster's Physiology, Section 524, p. 796.

[5] Forbes Ross: Diet in Heart Failure in the Aged, Brit. Med. Jour., Oct. 13th, 1900.

[6] Brit. Med. Jour., Feb. 2nd, 1901.

[7] Forbes Ross: Intestinal Intoxication in Infants (Kebman, London, 1897).

[8] Meat in Pulmonary Tuberculosis, Zeitschrift für Tuberculose und Heilstättenwesen, 1900.

[9] Bericht über den Kongress zur Bekämpfung der Tuberculose, Berlin, p. 619, 1898.

[10] Bulletin de l'Academie de Médecine, Paris, Nov. 28th, 1899.

[11] Open-air Treatment of Phthisis, THE LANCET, Dec. 1st, 1900, p. 1567.

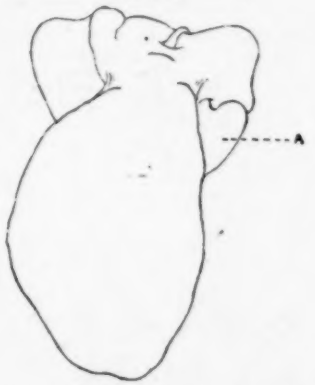
CHARING CROSS HOSPITAL.—A concert was given in Stafford House on June 11th in aid of the special fund for Charing Cross Hospital. The picture-galleries were thrown open to the visitors and tea was served in the dining-room and the garden.

A NOTE ON A CASE OF FIBROMA OF THE SMALL OMENTUM.

BY J. JACKSON CLARKE, M.B. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON AT THE NORTH-WEST LONDON HOSPITAL AND AT THE CITY OF LONDON ORTHOPÆDIC HOSPITAL.

IN the Transactions of the Royal Medical and Chirurgical Society for the year 1900, Mr. Pearce Gould has recorded a case that is not only remarkable in itself but also lends a reflected interest to a case that I communicated to the Pathological Society of London in the year 1892. Since

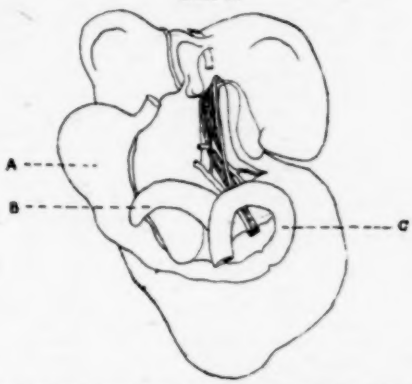
FIG. 1.



The tumour and the liver and the cardiac end of the stomach (A seen from the front.

Mr. Pearce Gould, in the record of his case of sarcoma of the gastro-hepatic omentum, has fully quoted the pathological account of my specimen as well as the comments that I made upon the surgical anatomy of the tumour, the only reason

FIG. 2.



The liver, the stomach and duodenum, the pancreas, and the tumour seen from behind. The structures in the right border of the small omentum have been exposed by dissecting away the posterior layer of peritoneum. A = stomach; B = pancreas; C = duodenum.

that I have for bringing the subject forward again is that I may remove a defect from the record of my case as it now stands in the place above referred to. Mr. Pearce Gould has drawn attention to this defect by expressing regret that in my account no details of the alteration in the position and shape of the stomach and duodenum or any exact account of the state of the portal vessels and common bile-duct are given. It is fitting to state that these details were included in sketches that I exhibited with the tumour before the Pathological Society of London. With these sketches before me I can now state that the stomach was of an elongated and narrowed form, the greater part of it lying obliquely behind the tumour. This elongation of the stomach resulted in the pylorus being at a much greater distance from the cardiac orifice than is normally the case. The pylorus lay behind the growth, a little to the right of its median line and about the junction of its lower and middle thirds. From the pylorus the duodenum passed first upwards, then to the left, and finally downwards, completing three-fourths of a circle. The opening of the common bile-duct into the duodenum was situated vertically above the pylorus in the middle of the horizontal portion. The common bile-duct, the hepatic artery, and the portal vein were elongated and lay behind the upper half of the tumour near its right border. The main arterial supply of the growth was an offshoot of the gastro-duodenal branch of the hepatic artery. There was a hepatic branch of the superior mesenteric artery which ran up behind the portal vein to the liver.

Portland-place, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF PYÆMIA AFTER ABORTION IN WHICH THE PERICARDIUM AND THE LEFT PLEURA WERE OPENED AND DRAINED; DEATH.

(Under the care of Dr. W. A. WILLS and Mr. W. G. SPENCER.)

DRAINAGE of the pericardial cavity is still an extremely rare operation, though several of those that have been described have been very successful. It is now generally recognised that it is very difficult to aspirate the pericardium on account of the tendency manifested by the heart to float towards the sternum when the patient is in the recumbent posture. The following case illustrates the importance of ascertaining the nature of the micro-organism present in a case of septicæmia or pyæmia, for we have no reason to think that anti-streptococcic serum would be of any avail in infection due to a staphylococcus. For the notes of the case we are indebted to Mr. H. Hallilay, house physician.

A married woman, aged 24 years, with six children, was admitted into Westminster Hospital on April 4th, 1901, under the care of Dr. de Havilland Hall and during his absence came under the charge of Dr. Wills. The patient was in her usual health until a fortnight before admission. She then was attacked by malaise, joint pains, and feverishness, and took to her bed at once. She was three months pregnant and at the end of the first week of her illness she had a miscarriage. She had had no vaginal discharge before, but after the miscarriage a discharge came on and lasted for about a fortnight. She was admitted as suffering from acute rheumatism with pericarditis.

She was a stout, somewhat florid woman. Her temperature was 103° F. There was considerable dyspnœa. Her face was livid and the alæ nasi were working. She was sweating freely but there were no joint pains. There were evident signs of pericardial effusion, the præcordial dulness extending to the left just beyond the nipple line and upwards to the upper border of the third costal cartilage. The impulse was feeble and diffuse. There was a distinct pericardial rub heard at the left margin of the sternum over the base of the heart and the heart sounds were muffled but clear. From the angle of the scapula to the base of the left lung there were dulness, whiffy tubular breathing, and bronchophony, with some increase of vocal fremitus, pointing to pneumonic consolidation of the left lower lobe. Elsewhere over the lungs there were no abnormal physical signs. The pericardial effusion did not

appear to be sufficient to account for the dyspnœa and lividity, but these no doubt were due to the lung being also involved.

During the next week the patient's general condition improved somewhat. Her appetite was remarkably good and she took solid food readily, but her breath remained very short. The signs of consolidation at the left base had almost entirely disappeared, but there was impaired resonance with some tubular breathing and a few râles at the end of inspiration at the right base. The præcordial dulness had extended to half an inch beyond the nipple line; the pericardial rub was still audible. The diagnosis of septicæmia after a miscarriage had by this time been provisionally made, though the patient's statements about the date of this event were so contradictory, varying from a fortnight to six weeks previously, that there was still some uncertainty. However, on April 15th two abscesses were found, one on the back of the right shoulder and the other over the left hip. They were opened and drained, being found to contain thick yellow pus.

On April 17th 10 cubic centimetres of anti-streptococcic serum were injected into the cellular tissue of the abdomen. The patient's general condition continued very good, with the exception of much dyspnœa and lividity on the least exertion. The physical signs at the right base had nearly gone, but at the left base signs of effusion had succeeded to those of pneumonia, though the amount of fluid did not appear to be large. A rapid increase of the already large area of præcordial dulness now took place, the left margin reaching to the anterior axillary line, the right border being one inch beyond the right edge of the sternum and the upper limit being the second left costal cartilage. At the same time the heart sounds became extremely muffled, much more so than at any previous period of the pericardial effusion. Her temperature since admission had ranged between 103° and normal, but until the last five days had rarely risen above 101°. Her pulse averaged from 140 to 160 and her respirations from 40 to 60. As it was clear that she was suffering from pyæmia, as evidenced by the two abscesses which had been opened and the signs of infection of the pleural and pericardial sacs, it was thought probable that the distension of the pericardium was due to a purulent rather than to a serous effusion, and as the heart's action during the last 24 hours had shown some signs of failing Dr. Wills decided to ask Mr. Spencer to open and to drain the pericardium. On the 19th she was accordingly transferred to his charge.

Mr. Spencer found no external signs of the pericardial empyema, in particular no œdema over the sternum. The patient was given a little ether which did not increase the dyspnœa or the pulse-disturbance. An angular incision was made down the left side of the sternum and outwards along the costal margin. This incision was required as there were much subcutaneous fat and a heavy dependent breast which had to be retracted upwards and outwards. The fifth left rib cartilage was then excised and the internal mammary artery was tied above and below. Behind the rib appeared the parietal pleura and through it was seen the edge of the lung, whilst all that could be felt with the finger at that stage seemed like the base of the heart. The sixth rib cartilage was next removed, but behind it only the diaphragm was found. Thus, so far, the distended pericardium had not come into view. Thereupon the patient was turned on the side and the left pleura was opened by removing a piece of the seventh rib in the post-scapular line. Turbid sanious fluid escaped from the pleura: there was no fibrin or adhesion and the lung quickly expanded. On exploring the pleural cavity with the finger the dome of the diaphragm was felt and above it the tensely distended pericardium behind the heart. An attempt was made to thrust a long aspirating needle into the pericardium, but it only stuck in the diaphragm. The patient was therefore again turned on to the back, the parietal pleura behind the fifth rib cartilage was opened, the edge of the lung was pushed aside, and the parietal pericardium incised. As before mentioned, it seemed as if one was incising the pericardium at the base of the heart. It proved to be about a quarter of an inch thick; on entering the cavity the wall of the heart was immediately reached, the parietal and visceral surface being partly adherent by recent fibrin. The heart was of normal size; on passing the finger round the apex the distended portion of the pericardium was reached and purulent fluid escaped freely. From a portion of the first which escaped a pure cultivation of staphylococcus pyogenes aureus was obtained. The pericardial differed from the pleural empyema in the fibrin and adhesions present. A large drainage-tube was quickly inserted past the apex of the heart into the cavity behind, and a strip of gauze was inserted into the pleura.

The patient, without being markedly improved by the operation, for a fortnight maintained her strength till about a week before death. Pus and fibrinous shreds escaped freely through the pericardial tube. The cavity was washed out daily by alternately injecting water and sucking it out again. At first she was supported by pillows, so that the cavity drained, but it did not empty completely when she became more prostrate. The pleural wound discharged very little; the lung fully expanded and as shown post mortem the communication in front was shut off. About a week before death another abscess formed deep in her right buttock, but this, owing to her weakness, was only aspirated.

Post-mortem examination by Dr. W. S. LAZARUS-BARLOW.—The body was found to be well nourished. There were a surgical incision in the præcordial area which discharged pus from the pericardium and a small incision in the right supra-scapular region. The pleural cavities were fairly free from adhesions. The lungs were small and were collapsed at the lower edge of the left lower lobe. The upper part of this lung and the whole of the right were normal. The larynx, trachea, and bronchi were normal. The pericardium was thickened and in places the two layers were adherent, everywhere being covered by a thick layer of curdy material. Free pus was present in the non-adherent parts of the cavity. The heart was of normal size; the myocardium was pale; the valves were normal. The liver was fatty and showed early cardiac changes. The spleen was large and soft. The pancreas was normal. The kidneys showed a cloudy swelling. The stomach and intestines were normal. As regards the uterus, the endometrium was congested, the wall was pale, the cervix was dilated, and the os was patulous. The tubes were congested. The ovaries were normal.

Remarks by Dr. WILLS.—The number of recorded cases of pericardial drainage is not large so it has been thought advisable to publish this account of the operation. As the patient was clearly suffering from pyæmia, when the operation was decided on it was considered better to make a free opening into the pericardium at once, without any preliminary attempt to ascertain the nature of the fluid by the use of an exploring syringe. The information thus obtained is so apt to be misleading, owing to the probability that the pus, unless in very large amount, will gravitate to the back of the pericardial sac, on account of the necessarily recumbent position of the patient, that it was felt to be unwise to risk the damage which might be caused by puncturing the heart wall. This has often been done without any harm resulting, but the likelihood of its occurring even when fluid is present in the sac, but present in the back of the sac rather than evenly diffused, is so great as to render the negative evidence of fluid so obtained of very little value. Moreover, the comparatively small needle which must be used for fear of the possible puncture of the heart wall being dangerous if large is so likely to be blocked by shreds of lymph that a further element of uncertainty is introduced in this way.

Remarks by Mr. SPENCER.—This case is surgically noteworthy as an instance of the collection of fluid almost entirely behind the heart; hence there was no appearance of a distended pericardium on the removal of the fifth rib. It proved, however, as in previous cases, that the fifth rib was the proper one to remove in order to expose the pericardium. If the patient had recovered somewhat a further operation would have been needed to have got rid of the cavity behind the heart, as the parietal wall of the pericardium was so thick and rigid. It would probably have become necessary to cut away the lower portion of the pericardium.

The diagnosis was based entirely upon the physical signs noted by Dr. Wills. It is very fortunate that no attempt was made to explore the pericardium with an aspirating needle. Had this been done through the fourth or fifth interspace close to the sternum considerable resistance would have been met with in passing through the pericardium and the needle would most certainly have gone on into the heart wall, for there was practically no fluid between the pericardium and the heart in front, only a layer of fibrin with fluid in its meshes. The distension of the sac was behind, out of reach of an aspirating needle.

GLASGOW ROYAL INFIRMARY.

TWO CASES OF DISLOCATION OF THE PATELLA, ONE UPWARDS AND ONE DOWNWARDS.

(Under the care of Dr. DAVID NEWMAN and Dr. HENRY RUTHERFURD.)

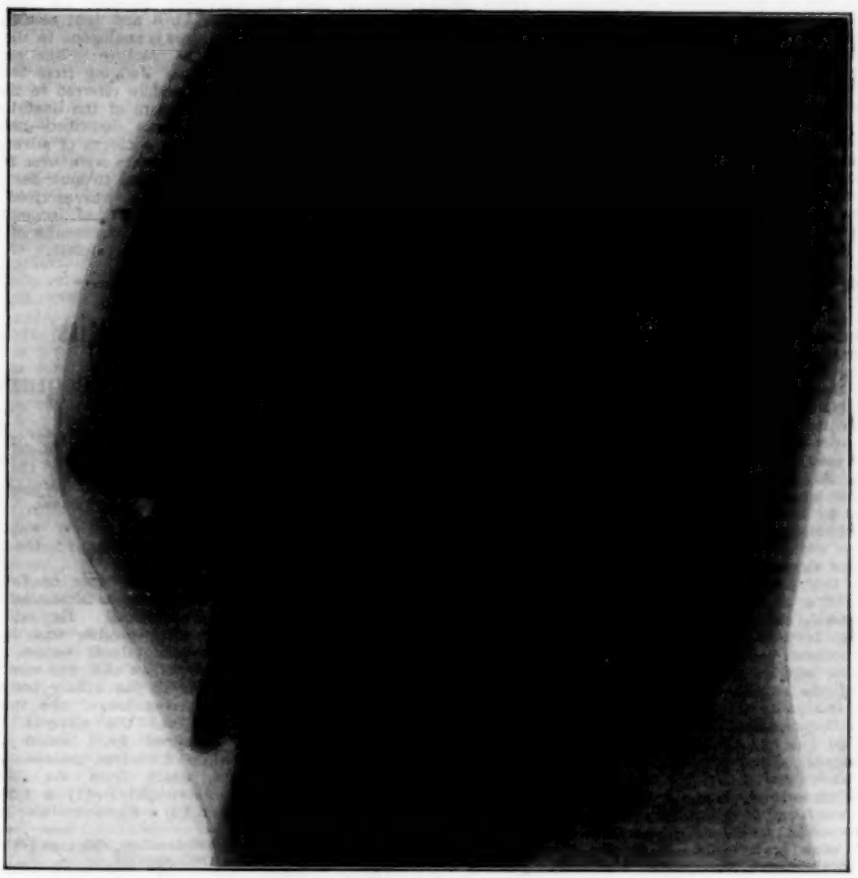
THE exceeding rarity of these forms of dislocation of the patella is manifest from the total absence of any description of them from the text-books. Either form must require a direct blow on the patella, and this blow must probably be delivered in a nearly vertical direction, either upwards or downwards, according to the variety of dislocation produced.

CASE 1. *Dislocation of the patella upwards by rotation on its horizontal axis, the articular surface presenting upwards.*—A man, aged 24 years, was on Oct. 24th, 1900, admitted into the Glasgow Royal Infirmary under the care of Dr. David Newman complaining of an injury to the right knee-joint. The history of the accident given by the patient was that a few days prior to admission he fell and injured his right knee which he said had been weak as the result of an injury received six years ago. On examination the knee was seen to be swollen and the slightest pressure with the hand caused the patient great pain. The knee while at rest assumed a slightly flexed position and without the employment of an anæsthetic the joint could not be further flexed or extended. Two days after admission the patient was placed under chloroform and the knee-joint was examined. Dr. Newman found that

FIG. 1.

Section of the knee-joint, showing dislocation of the patella upwards in Case 1.

FIG. 2.



Skiagram (lateral) showing the dislocation of the patella downwards in Case 2. The upper border is engaged between the femur and the tibia.

while the lower border of the patella was wedged in between the head of the tibia and the condyles of the femur there was an abrupt hollow immediately below the dislocated bone, and the ligamentum patellæ lay close to the head of the tibia, while the tendon of the quadriceps extensor muscle was thrown forwards and rendered unduly prominent. On both sides of the tendon there was a deep groove. Fig. 1 shows a section of the knee-joint in its middle line. The condyles are not represented, being shown as a section through the inter-condyloid notch. The apex of the patella was wedged between the head of the tibia and the adjacent surfaces of the internal and external condyles, and was there firmly fixed. While the patient was under the influence of the anæsthetic the dislocation was easily reduced by manipulation and the movements of the limb were completely restored. Probably a portion of the ligament of the patella was separated from the bone, but this could not be ascertained by palpation through the integuments; there was no evidence of rupture of the tendon of the quadriceps extensor muscle.

Remarks by Dr. NEWMAN.—The case above described is exactly the converse of the one now published by Dr. Henry Rutherfurd. In the very interesting case brought forward by him the apex of the bone was thrown forwards, so that the articular surface looked downwards, while the base of the patella was wedged between the head of the tibia and the condyles of the femur. In my case it was the lower border of the patella that was fixed in the knee-joint; the articular surface looked upwards while its base projected forwards.

CASE 2. *Downward dislocation of the patella.*—A youth, aged 18 years, was admitted to Ward 25 of the Glasgow Royal Infirmary on Jan. 23th last with an injury to the left knee, and in the absence of Mr. H. E. Clark came under the care of Dr. Henry Rutherfurd. The history was that the night before the patient had struck his knee against a bogey or low truck which was standing in his way and had been thrown down by the violence of the impact. Dr. W. S. Findlay of Bellshill saw him and recognised the existence of a dislocation of the patella; on admission the joint was painful, fixed, and its capsule was distended. Dr. Rutherfurd examined the patient under chloroform, expecting to find rupture of the quadriceps or possibly fracture of the patella. No gap could be found in the continuity of the rectus tendon nor could any fragmentation of the patella be made out. A body apparently corresponding to that bone could be felt impacted between the femur and the tibia as if it had been turned through a right angle on its transverse axis. On the presumption that it was the lower edge that was presenting forwards an attempt was made to reduce it, but this was not effected even after emptying the joint by an incision through the vastus externus. In view of the unusual nature of the injury Dr. Rutherfurd thought that it was advisable to have the parts skiagraphed before proceeding further. This was done the same day by Mr. Brennan, electrician to the infirmary, and the print which he obtained confirmed the diagnosis (Fig. 2). The patella is seen with its articular surface turned downwards and engaged between the femur and the tibia. The ligamentum patellæ is seen tightly stretched.

On Jan. 30th (two and a half days after the injury) the patient was again put under chloroform and Dr. Rutherfurd proceeded to operate for reduction of the displacement. It being probable to his mind that there was a rupture of the quadriceps which would require suture he turned up a flap from below the anterior tubercle of the tibia, exposing the front of the joint to above the insertion of the rectus femoris. The tendon though ecchymosed presented no rupture and he was still unable to pull up the patella from its position between the bones. Accordingly the joint was cut into about a finger's breadth from the outer side of the patella, and passing in the finger the bare anterior surface of the patella could be felt and seen presenting upwards; with a hook it was now levered into place. The wound of the capsule was closed with a continuous suture of chromicised gut, and afterwards the skin flap was dealt with in like manner. The joint was carefully emptied of blood by pressure and a bulky dressing was applied; no splint was employed. A fortnight later the dressing was removed, when the joint was found to be of normal appearance; there was no gap above the patella and there was no tilting forwards of its upper edge, as is typical in rupture of the quadriceps. Within another week the patient was walking about the ward and on Feb. 22nd he was sent out. On the day after the operation there was a rise of temperature to 101° F. Whether this was due to absorption of extravasated blood or to a slight formation of stitch abscess is doubtful. Next night the temperature was 100° and thereafter it was regularly below the normal.

Remarks by Dr. RUTHERFURD.—So far as published records go this would seem to be a unique case. Apart from compound injuries, I am inclined to think that engagement of the patella between the bones entering into the formation of the knee is rare, yet it is only a few weeks since that I was told by my colleague, Dr. Newman, of the first case which is described above, but the interest of the case which I have described lies in its bearing on the generally accepted view as to the classification of dislocations of the patella. This may be taken as expressed by Stimson:[1] "Dislocations [of the patella] upwards and downwards should not, I think, have a place in the classification, since they are the secondary results of other lesions, rupture of the ligamentum patellæ or of the tendon of the quadriceps, which are to be deemed the principal and controlling ones." The same view is set forth by Stephen Smith in his edition of "Hamilton on Fractures and Dislocations"[2] and by Berger[3] who quotes Malgaigne, and before him Petit, as having enunciated the doctrine. It may seem difficult to distinguish between a tearing away of the patella from the insertion of the quadriceps and a rupture of the quadriceps itself, but I think that the distinction is valid. In the case which I describe the periosteum was stripped from the front of the patella and remained connected with the quadriceps, so that the extensor apparatus of the knee was virtually intact. Rupture of the quadriceps, even if it be held to have occurred, was certainly not the "principal and controlling lesion." The lesion here was due to direct violence, and the difference between its results to the extensor function of the knee and that resulting from a true rupture of the quadriceps is analogous to the difference in the functional results in fracture of the patella from direct and indirect violence. Judging from the statistics collected by Berger in the article referred to there are at least three points wherein rupture of the quadriceps differs from the injury which I have described—namely: (1) rupture of the quadriceps is an accident of advanced life—more than two-thirds of the cases were over 50 years of age; (2) it is almost invariably due to muscular action—in the one case out of 28 where it was ascribed to direct violence the patient was the subject of locomotor ataxy; and (3) the recovery (apart from the results of suture) is slow and in many cases markedly incomplete.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Study of Inflammatory Exudates into the Vitreous.—Paralysis of the Third Nerve with Unusual Complications.—Double Symmetrical Opacities of the Cornea.—Erythropsia.—Eye Injury due to Lightning in South Africa.—Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on June 13th, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Dr. LESLIE BUCHANAN read a paper on Inflammatory Exudates into the Vitreous which was illustrated by lantern slides made from his preparations. He said that the exudation into the vitreous in cyclitis was, in the first instance, formed in the pars ciliaris retinæ, and more especially in the non-folded portion of it, but soon the folded portion, the fibrous stroma of the ciliary body, and the retina took part in the production of the inflammatory exudate. The exudate into the vitreous body was seen in the fresh specimen fixed in 5 per cent. formalin as opaque white flocculent masses. It might be divided into zones, which from the ciliary body inwards were as follows—namely: (1) a fibrous zone; (2) a fibrinous zone; and (3) a fibrino-cellular zone. The

[1] Fractures and Dislocations, 1899, page 772.
[2] 1891, page 760.
[3] Article "Rotule," Dictionnaire Encyclopédique des Sciences Médicales, 1877.

formation of fibrous tissue began very early, probably about the eighth day. The formation of fibrous tissue was accomplished by the action of certain ova nuclei on the fibrin ending in the formation of fibrous tissue. The cells which formed the exudate at first formed masses on the non-pigmented layers of the pars ciliaris retinæ and were of various characters. That these cells were not all derived from the endothelium was shown by bleaching and re-staining, when many cells might be seen migrating through the pigment layer to the free surface. In the retina also there was evidence of migration. The cells thus exuded passed to a greater or less depth into the vitreous. Here they proliferated rapidly. In the more superficial portions of the exudate degenerated protoplasm might be seen not having a nucleus, though no instance of mitosis had been seen. Fatty degeneration followed and further migration of nuclei took place, these finding their way back by the lymphatics. A fibrinous cyclitic membrane was thus left infiltrated with fat and highly vascular. The fat was absorbed, the blood-vessels were gradually constricted, leaving a comparatively avascular fibrous tissue layer, by the contraction of which the eye was distorted and destroyed. A further change was the formation of true bone. Spherical globules were formed, which grew, forming a solid mass penetrated by blood-vessels, and finally converted into bone. The bone corpuscles were probably fibrous tissue corpuscles. The cavities of the bone were lined by osteoblasts containing blood-vessels, fat, and crystals of fatty acids.

Mr. P. H. MULES reported a case of Paralysis of the Third Nerve with Unusual Complications. The patient was a man, aged 75 years, who, feeling ill on May 4th, 1900, proceeded to treat himself on the following original plan. He first took half a box of "wind pills," together with a variety of other sorts. Feeling no better he took two ounces of a solution of tartar emetic. The vomiting having ceased two days later, and feeling his head very sore, he applied to his forehead and scalp various applications chiefly used for veterinary purposes. He became so much worse that Mr. Mules was sent for. Incisions were then made into the œdematous scalp and 10 grains of calomel were given. The following day (May 10th) the patient was better, though sloughs covered the scalp and there was severe pain. It was then noticed that there was paralysis of the third nerve. On May 27th the scalp had healed but the paralysis remained. Mr. Mules thought that the cause of the trouble was herpes of the fifth nerve. This was the cause of the patient feeling ill in the first place. The vesicles were never seen on account of the applications which caused so much destruction of tissue. As a sequel to the herpes paralysis of the third nerve ensued.—Mr. DEVEREUX MARSHALL referred to an exhaustive paper on Herpes by Head and Campbell published last year in *Brain*. The cases were sometimes epidemic. The lesion was in the Gasserian ganglion.—Dr. ALDREN TURNER saw no reason why the third nerve should not be affected and did not consider motor paralysis uncommon after an attack of this disease.—Mr. MARCUS GUNN asked if there had been an injury and mentioned two cases in which an attack had definitely followed traumatism.—Mr. JOHNSON TAYLOR asked if any vesicles had been seen on the cornea.—Mr. MULES, in reply, stated that none had been observed.

Mr. MULES recounted a case of Double Symmetrical Opacities of the Cornea. The patient, who was aged 70 years, developed opacities of the cornea eight years ago. These were symmetrical and brownish in colour and had been increasing. The apices were at the pupils and their bases at the corneal margin. A vertical slit was present in each. One was removed by scraping but the other was removed far more easily by means of a fine knife inserted beneath it. The result was quite satisfactory.—The PRESIDENT said he had watched a similar case for seven years but it had not reached the pupil and he had done nothing to it at present.

Dr. W. H. R. RIVERS described a Form of Erythropsia which appeared after exposure to high illumination as a well-defined deep red border round a white object. The phenomenon might be regarded as an intermediate link connecting the ordinary forms of erythropsia with the transient red border seen round a white object which had been described by Shelford Bidwell. It was shown that Bidwell's phenomenon, "border erythropsia," the artificial erythropsia of Fuchs, and clinical erythropsia such as occurs after the removal of the lens, were probably closely related to one another. The causation of erythropsia in general was considered and reasons were given for believing that all forms were due to the colouration by the light stimulating the retina by blood, and this might be produced in several ways: (1) by transmission through the sclerotic, &c.; (2) by internal reflection from the lateral walls of the eyeball; and (3) by transmission through the anterior layers of the retina. The experiments of Birkhoff showed that erythropsia might occur when light was prevented from passing through the peripheral part of the eyeball, but these experiments did not exclude the third of the sources above-mentioned.—Remarks were made by Dr. F. W. EDRIDGE-GREEN and Mr. H. R. SWANZY.

Major M. T. YARR, R.A.M.C., gave an account of two cases of Eye Injury due to Lightning in South Africa. He stated that while encamped in the Orange River Colony in March, 1900, they were exposed to a violent thunderstorm. 1. Major H. had his tent-pole struck; at the same time he felt tingling down the right side of his head and right arm. He became partially unconscious but soon recovered, but the tingling persisted for some days. Four months later he discovered accidentally that he was practically blind in the right eye, and he was invalided to the base hospital. When seen by Major Yarr in August, 1900, he could only count fingers at three feet. There were several large hæmorrhages, evidently not of recent date, and patches of atrophy in the retina in the region between the superior and inferior temporal veins, with a few scattered and much smaller hæmorrhages in the periphery, some engorgement of the veins, pallor of the disc, and contraction of the arteries. The left eye was normal. 2. R. C., aged 25 years, a private in the 2nd Royal Berkshire Regiment, was employed on telephone duties at Belfast, Transvaal. On Oct. 18th, 1900, he was sitting at his "operating table" during a storm, when his instrument was struck by lightning. He fell, and on regaining consciousness he was unable to see. He had suffered no bodily injury but his instrument was bent. The next day he could distinguish between light and dark; about a week later he had perception of light in both eyes, could count fingers with the left, and the tension was normal. There was a large retinal detachment in the right eye, running in wavy whitish lines inferiorly. The left eye also showed a large detachment but spread over a wider area. The vision had previously been quite good.

The following cases and card specimens were shown:—

Dr. A. BRONNER: Growth of the Conjunctiva from an Old Man.

Dr. A. A. HUDSON: An Apparatus for Performing Massage on the Eyes by means of a Vibrating Hammer.

Major H. E. DRAKE-BROCKMAN, I.M.S.: A New Eye Speculum.

Mr. J. H. FISHER: Sub-retinal Cystic Swelling in the Centre of the Fundus.

Mr. INGLIS TAYLOR: Tubercle of the Iris.

Mr. RICHARDSON CROSS: Congenital Fibro-vascular Tumour Removed from the eye.

Mr. STANFORD MORTON: Double Coloboma of the Lens.

Mr. R. W. DOYNE: Hole in the Retina.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on June 7th, Dr. F. Schacht, the President, being in the chair.—Several new members were nominated.—Dr. E. A. Saunders showed two cases of Cretinism. One patient was a little girl, aged six years, who had been under thyroid treatment for two years; the second was a boy, aged nine years, who had been only under treatment for three and a half months. The girl first came under his care at the age of four years and then presented the typical appearance of a cretin. She was two feet six inches in height and weighed one stone 11 pounds. She could walk but a few yards and could only say two words. Her face was swollen and heavy, her nose was broad, she had a protuberant tongue, pouting lips, swollen abdomen, dry skin, and sparse hair. The thyroid gland could not be felt. She was placed upon thyroid gland, one grain three times daily, and had been kept on this dose since. She had steadily improved. The child could now walk, run, talk freely, and was generally bright and intelligent. Her growth was remarkable. In the first year after treatment she grew seven inches and in the second year four and a half inches, and had now attained her normal height. The boy, who had the appearance of being about four years old, was in reality nine and a half years old. In the three months he had been under

treatment he had grown one and a half inches and had become brighter and more intelligent. He still, however, had the typical appearance of a cretin, but in addition had an excessive rigidity of the muscles of the legs and an increased knee-jerk.—Dr. Leonard Dobson described a case of a child, aged two years, who had all the typical signs of a cretin but was improving remarkably under one-grain doses of thyroid gland daily.—Mr. C. R. B. Keetley thought that there were many cases of the cretinoid state undetected. He noticed a child in his orthopædic department whom he gave thyroid extract to with great improvement in the symptoms.—Dr. Buttar asked whether the treatment must be continued for life.—Dr. Saunders considered that treatment must be continued at least during the stage of growth, and in the majority of cases probably for life, although in some cases the treatment might be omitted from time to time.—Mr. McAdam Eccles showed a case of Spina Bifida and Hydrocephalus after operation. The patient was a male child, born in December, 1900, and at birth a large tumour three inches by two and a half inches was discovered over the lumbar vertebræ; it fluctuated and was covered with a thin bluish semi-translucent membrane and was distinctly bilobed. The child thrived and in about a month Dr. Stanley Melville, under whose care he was, reported that the tumour seemed to be undergoing spontaneous cure. About Feb. 3rd the tumour rapidly increased in size and at the same time there was some bulging of the fontanelles and separation of the cranial sutures. This steadily increased, although at times it was relieved by a discharge of clear fluid from the ear. The child was admitted into hospital in April when the movements of his arms were normal but there was some paralysis of the lower extremities. There was evident fluctuation between the cranial and spinal swelling. In order to determine whether the fluid was intra- or extra-ventricular Mr. Eccles made an incision over the left posterior lateral fontanelle and entered the subarachnoid space, but little fluid escaped. A trocar and cannula were introduced into the left lateral ventricle and a large quantity (10 ounces) of fluid immediately escaped, followed by collapse of the spinal tumour. The wound was then dressed and no bad symptoms followed. In three days the tumour and ventricles appeared to be as tense as ever and it was decided to attempt to create a permanent communication between the ventricular and subarachnoid spaces. Accordingly an incision was made over the right lower angle of the anterior fontanelle and the dura mater exposed and opened. A strand of horsehair of about 15 hairs, two inches long, tied at one end, was introduced by means of sinus forceps, the tied end of the drain being passed for an inch between the dura mater and brain substance and the free ends passed through the brain substance into the lateral ventricle. The incision in the dura mater was not closed, but the edges of the scalp were drawn together and sutured. The child had no symptoms after the operation. There had since been a steady diminution in the size of the head. On May 14th the first and second toes of the right foot were found to be ulcerated, and as there was no diminution in the size of the spina bifida it was punctured and the toes then improved. Mr. Eccles stated that in some cases a strand of fine catgut had been used, but this was too quickly absorbed, and in others a metal capillary tube, but this was, as a rule, followed by a fatal result.—Mr. Keetley suggested the probability of a blockage of the drainage channel by lymph and thought that the danger of a metal tube was more from the irritation and hardness of the metal than its permanency.—Mr. Eccles, in answer, said that he used horsehair as it appeared to him to be less irritating than metal. He knew of no case where a tube had remained in so long as the horsehair drain in the present case.—Dr. Ross Sinclair showed a man with an Anomalous Tumour of the Scalp. The man was aged 31 years, and on the upper and back part of the left parietal bone there was a horizontal groove, and another which ran downwards and backwards from the two former ones. When he depressed his head the space rapidly filled up with fluid and a large soft tumour appeared. When he resumed the upright position the swelling immediately disappeared. He had no symptoms and complained of nothing but an occasional feeling of pins and needles over the tumour. He had had no fits. There was a history of a fall when a few months old, but no notice was taken of it.—The President thought it remarkable that the change in intra-cerebral pressure did not produce any symptoms.—Mr. Eccles said that this was probably a case of traumatic cephalhydrocele, the fluid probably being cerebro-spinal and coming from the subarachnoid space. The absence of any symptoms was remarkable. He did not think there would be any difficulty in closing the aperture by a plastic operation, but as there were no symptoms the operation seemed uncalled for.—Mr. Keetley agreed with Mr. Eccles's opinion of the case. He had never seen anything like it before.—Dr. Campbell Pope showed a case of Venous and Lymphoid Swelling of the Cheeks in a boy aged 12 years. It appeared suddenly after scarlet fever seven years ago. The cheeks were swollen, thickened, and of a bluish tint. The swelling was greater in cold weather. No suggestions could be given as to treatment, but it was possible that electrolysis might be beneficial.—Dr. Saunders thought that it was probably a nævoid condition, in which both veins and lymphatics were involved. It was a most remarkable case.—Dr. Pope also showed a man, aged 36 years, suffering from Abdominal Aneurysm, probably of the splenic branch from the aorta. The patient had suffered severely from membranous colitis for five years and to ease his pain had been accustomed to lean across a deal table, pressing the abdomen hard against the wood. There was some history of syphilis. He could not now lie down because of the pain and pulsation.—Dr. Saunders asked the nature of the man's work.—Dr. Pope, in reply, said that the patient was originally sergeant-instructor of gymnastics in the army but had lately been engaged in laundry work. He had lost weight greatly. Olive oil in half-ounce doses had been of most service in treatment of the colitis. He could not take iodide of potassium as it increased his pain.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on June 10th, Sir W. B. Dalby, the President, being in the chair.—Mr. W. C. Bull showed a patient upon whom the complete Mastoid Operation had been performed followed by Skin-grafting. The hearing power had improved immensely after operation.—The President, Mr. Cheatle, and Mr. Ballance discussed the case.—Mr. R. Lake showed a case of Post-operative Atresia of the Meatus in an adult.—Mr. Baber referred to a similar case where he had performed Stacke's operation.—Dr. H. Tilley asked for any suggestions as to how to avoid post-operative meatal atresia.—Mr. Ballance referred to a case where he had drawn the pinna forward and removed a portion of the postero-superior bony wall of the meatus, cutting away also a considerable portion of the thickened cartilaginous meatus. Subsequently the raw surfaces were grafted with satisfactory results.—Dr. Dundas Grant thought that in such cases epithelial grafting might prove useful.—Dr. StClair Thomson showed a female patient in whom an Acute Mastoiditis had been cured by the employment of a Stacke-like operation.—Dr. Milligan considered that the case was not one of primary mastoiditis but of chronic disease with an acute exacerbation.—Dr. Dundas Grant concurred in this view.—Mr. A. H. Cheatle showed a case of Tuberculosis of the Temporal Bone in an adult.—The case was discussed by Dr. Milligan, Dr. Urban Pritchard, Dr. McKenzie Johnston, Mr. Ballance, Mr. Lake, and Dr. Jobson Horne.—Mr. Secker Walker read the notes of a case of Septic Thrombosis of the Lateral Sinus, Mastoid Disease, and Post-pharyngeal Abscess followed by recovery after extensive operative interference. A portion of the cochlea had come away as a sequestrum, but a fair amount of hearing was still retained upon the affected side.—The President and Dr. Pritchard discussed the case.—Dr. Adolph Bronner showed microscopical sections of two cases of Epithelioma of the External Auditory Meatus.—Dr. Milligan gave details of a case of Fatal Hæmorrhage from the Ear occurring in a child, aged two and a half years. The internal carotid artery was eroded externally to the temporal bone and was lying in an abscess cavity which communicated with the external auditory meatus. The common carotid artery upon the same side had been successfully tied by Mr. H. Lund. Death took place, however, two days subsequently from profuse arterial hæmorrhage.—Dr. Pritchard read the notes of a case of Temporary Loss of Audition and Equilibrium from an Overdose of Quinine.—The case was discussed by Dr. Barkan (San Fransisco) and Dr. Dundas Grant.—Mr. L. A. Lawrence showed specimens of a Red Vegetable Growth removed from the External Auditory Meatus.—Mr. Macleod Yearsley showed macro- and micro-photographs of a case of Papilloma of the Auricle.—Mr.

W. C. Bull showed a specimen of Central Necrosis of a Portion of the Semicircular Canals.—Mr. C. H. Fagge showed a specimen of an Exfoliated Cochlea.

Reviews and Notices of Books.

An Introduction to Physiology. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. Cambridge, Mass.: The University Press. 1901. Pp. 314.

FEW will question that the substitution of practical exercises in the place of mere book study has proved of immense value in education. In physics, in chemistry, in anatomy, in botany, every experienced teacher and examiner knows well the difference between the student who has painfully committed his subject to memory from some text-book and him who has acquired his knowledge in the laboratory, the field, or the dissecting-room. The present work is intended as a guide to the young physiologist. The idea of making the student perform the simpler experiments of physiology for himself is not new; various treatises, such as the Handbook of Physiology by Several Authors, the Practical Physiology of Foster and Langley, the Manual for the Physiological Laboratory of Harris and Power, the Physiology, Experimental and Descriptive, of Cotton, and others, all have the same object in view. The difference in the value of these works is the manner in which the instruction is given. Dr. Porter has placed before the student a series of exercises which if he carries out with his own hands will supply him with the key to physiological inquiry, or, in other words, will furnish him with all its fundamental data.

The subject-matter of the first part of the book is the behaviour of nerve and muscle under the influence of stimuli that can be applied by the student with comparatively simple and very inexpensive apparatus. Naturally the author begins by giving directions as to the method to be adopted in making a nerve-muscle preparation and a short account of the instruments which are required. The effects of the electric stimulation of muscle and nerve by the continuous and the interrupted current are well given and this is followed by a section on chemical and mechanical stimulation. Irritability and conductivity are then discussed, which is again followed by the electromotor phenomena of muscle and nerve. The second part of the book is occupied with the consideration of the mechanics of the circulation and the innervation of the heart and blood-vessels. Both parts are divided into short chapters or sections each of which is devoted to a particular experiment, and the student is led on by easy steps from the more simple to the more difficult physiological experiments. In the earlier experiments described the independent irritability of muscle is shown by instructing him in the mode of obtaining a nerve-free muscle—a muscle with degenerated nerve—and by paralysing the nerve-endings with curare. Then other experiments show that irritability and contractility are separate properties of nerve; that the specific irritability of nerve is greater than that of muscle; that the same nerve may conduct impulses both centripetally and centrifugally, and so on. At the close of each section the instruments and apparatus required for the demonstration are shortly given, as, for example, for the experiments just referred to the following are mentioned: normal saline solution, bowl, towel, pipette, glass plate, dry cell, inductorium, key, wires, frog with sciatic nerve degenerated, and more than 20 other articles. A great saving of time and temper is thus effected; everything being at hand there is no interruption to run after a piece of string or a muscle clamp, or some trifle without which the experiment is apt to fail. The part devoted to the mechanics of the circulation contains a description of a simple artificial scheme, and gives, besides other information, experiments explanatory of blood-pressure, the characters of the cardiac muscle, the heart-sounds, the pulse, and the chief phenomena of cardiac stimulation and inhibition. Many, if not all, of these experiments can be performed by a student of very limited means, a kymograph and an inductorium being perhaps the most expensive of the instruments required. In conclusion, we must congratulate Dr. Porter on the clear exposition which he has given of the fundamental experiments of physiology, and we sincerely trust that his work will receive encouragement from the teachers of physiology in this country.

Aphorisms, Definitions, Reflections, and Paradoxes, Medical, Surgical, and Dietetic. By A. RABAGLIATI, M.A., M.D., F.R.C.S. Edin. London: Baillière, Tindall, and Cox. 308 pp. Price 7*s.* 6*d.* net.

THE existence of this book is due to Dr. Rabagliati's conviction that in the realms of medicine and surgery we have collected a large number of observed facts and have insufficiently exercised our reason upon them. The writer is of opinion that the time has come to formulate a philosophy of medicine, to generalise upon a large number of careful observations. His book is intended to be "a preface to the study of the theory and art of medicine," and it is intended also to remedy confusion of nomenclature and to "obviate conflicts of opinion and practice" among even the most distinguished exponents of the arts of medicine and surgery. We do not admit the author's premiss that there is little use in further observation as compared with the use in drawing general deductions on which to found principles of practice, nor can we admit that there has been, generally speaking, a deficiency of theorising on the part of medical writers as compared with a relation of observed facts. Supposing, however, that we granted the utility of sweeping generalisations in medicine and surgery, subjects which from the varying and human nature of their objects of study admit very little of generalisation, we should find not much to extol in the execution of the task in the book before us. There is an unfortunate profusion of verbiage in Dr. Rabagliati's work, a tedious amount of repetition, a very limited view, and some remarkably incorrect statements. As regards the confusion of nomenclature that is to be removed for us what confidence can we place in an author who devotes several pages to the demonstration of the superiority of his new term *initis* in place of the old "rheumatism" when he gives no clear idea of exactly what affections the word is to express, or how can we hope for simplicity and clearness in the doctrines of a writer whose pages teem with "poly- and pollaki-siteism" and such remarks as this—"This overgrown or hypertrophied tissue is very labile and easily breaks down with excessive combustion or oxidation."

The only idea of real worth that we have been able to extract from the book is the familiar one that disease is largely due to unwise feeding. The deduction that Dr. Rabagliati is constantly arriving at is that poly-pollaki and kako-siteism or -potism are to blame for any disorder to which he is alluding. Some of the cases which he quotes in support of his contention are so remarkable and so directly opposed to the common experience that the author would have been wise to have given them in greater detail. Dr. Rabagliati's views on the causation of disease, from cancer to corns, is that all are due to mistakes in the nature or quantity of food. He has cured dysmenorrhœa by restriction of diet and would equally have routed carcinoma had the cases met him earlier; anæmia of all kinds is a matter of overfeeding, and the specific fevers are set up by inflammations due to too free ingestion. The aphorisms

in this work are obvious, the definitions futile, and the reflections involved.

The Commonwealth of Cells. By H. G. F. SPURRELL, B.A. Oxon. London: Baillière, Tindall, and Cox. 1901. Pp. 126. 67 Illustrations. Crown 8vo. Price 2s. 6d.

THOSE who have read Verworn's General Physiology will appreciate the title which Mr. Spurrell has chosen for his collection of essays on the problems of the human organism, for the central idea of that masterly work has been the elaboration of the conception of the human body as an aggregation of cell-units working together for the common weal under the administration of the nervous system. Mr. Spurrell's task has been to simplify this philosophical conception to the level of intelligence possessed by that ever-increasing section of the public which takes a keen interest in the workings of the body and the material basis of the mind. That this task has been completed without the aid of technical expressions and strictly scientific nomenclature reflects the greatest credit on the author's ingenuity. The class of readers to whom these essays will more particularly appeal will be students of philosophy and of branches of natural science other than physiology. The story of the human body as unfolded in these pages reads rather as a romance than a tale of dry bones and hard facts, for the author has an enviable facility of expression and a happy knack of appealing to the imagination of his readers. Since the time of Huxley's Physiology it is probable that nothing has been written which is so likely to popularise this fascinating branch of science as this series of essays by Mr. Spurrell. When Huxley wrote his monumental text-book the science of physiology was in its infancy and, to make use of an Irishism, was more anatomical than physiological. To-day physiology is brimful of the most intensely interesting applications of chemistry. Structure, both microscopic and macroscopic, is but the alphabet which enables us to understand the really interesting problems of life. It is these latter problems rather, the A B C of the science, which are dealt with in these pages. Mr. Spurrell is eminently up to date and his essays contain references to many important discoveries only recently published, and, further, the chemical basis of protoplasmic activity is reduced to the simplest terms so far known to science, but the process of reduction is led up to by such gradual and easy stages that the reader is unconsciously introduced to problems which have but recently defied solution.

It is not too much to say that no intelligent and educated person can read these pages without considerable profit. Those who possess previous knowledge of physiology will find their views all the clearer and those who possess no such knowledge will appreciate this lucid introduction to the subject. It will in no way weaken our praise of this charming little collection of essays if we point out that on page 30 it is incorrectly stated that "the distressing symptoms of goitre supervene on the surgical removal of the thyroid gland."

LIBRARY TABLE.

Atlas und Grundriss der Traumatischen Frakturen und Luxationen. (*Atlas and Elements of Traumatic Fractures and Dislocations.*) By Professor Dr. H. HELFERICH of Kiel. With 79 Plates and 158 Figures in the Text by B. KEILITZ (Artist). Fifth revised and enlarged Edition. Munich: J. F. Lehmann. 1901. Pp. 338. Price 12 marks.—As this is the fifth edition of this well-known work it is very evident that it has been largely appreciated, and even two English versions of it have appeared. In the present edition nine Roentgen-ray skiagrams and 21 illustrations in the text have been added to the already large number. The author, however, has been careful, as he tells us in his preface, to deal briefly with all the rarer fractures and dislocations so as to maintain the elementary character of the work. The difficulty of interpreting the products of the Roentgen rays has induced Dr. Helferich to have taken some skiagrams of normal joints, and Dr. Werner prepared from these some explanatory diagrams which serve to make as clear as possible the normal relations of the bones as "projected" on a sensitive plate. In some points we are inclined to think that this volume is the most successful of a very excellent series.

The Treatment of Fractures. By CHARLES LOCKE SCUDDER, M.D., assistant in clinical and operative surgery, Harvard University Medical School, assisted by FREDERIC J. COTTON, M.D. Second edition, revised. With 611 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 460. Price 19s. net.—The most striking characteristic of this work is the profusion of illustrations, for they are more than 600 in number, although there are only 460 pages of text. No small proportion of the illustrations consists of diagrams representing fractures and the methods of applying splints, and these are so clear that it would be difficult indeed, for anyone to misunderstand the treatment advocated. Every point that could possibly be represented graphically has its illustration. An example will serve to show the thoroughness with which this has been done; in the chapter on Fracture of the Vertebræ there are 29 illustrations; 11 of these represent the bony lesions; four illustrate the damage to the spinal cord; four represent the normal anatomy of the spine, the cord, and the spinal nerves; two show how to examine the cervical vertebræ for fracture, by means of a finger introduced into the pharynx; seven are diagrams indicating the area of anæsthesia in spinal fracture; and the remainder illustrate the attitude of the patients. There is really very little that needs to be said as to the details of the work, for it is uniformly good. The author speaks very highly of Cabot's wire splint, which is but little known in this country—certainly not so well known as it deserves to be. The plaster-splint is recommended also, but the plaster-of-Paris roller appears to be the form chiefly employed. A very valuable chapter is that devoted to the interpretation of Roentgen-ray pictures. It is written by Dr. E. A. Codman and puts very clearly the difficulties which there are in understanding exactly what is seen in a skiagram. The practical value in fracture of the x rays is well described and the writer shows that we now know much more about many fractures—for instance, it is recognised that the styloid process of the ulna is fractured in a very large proportion of cases of Colles's fracture, some say in as many as 80 per cent. The question of danger from the x rays is discussed, and some experiments of Professor Elihu Thomson on himself are recorded by which he caused severe inflammation of a finger; the conclusion is arrived at that the skin should never be less than 12 inches from the Crookes's tube and that the exposure must not be too prolonged. A useful bibliography of the recent literature of fracture is appended to the volume.

Annals of Ophthalmology. H. V. WÜRDEMANN, M.D., Managing Editor. January, 1901. No. 1. St. Louis, Mo.: Jones H. Parker. Price 18s. per annum. Published quarterly.—A large portion of the annals is occupied with reveiws and abstracts of papers and memoirs that have appeared in other journals, but there are several original articles. Amongst these is one on the Bacteriology of the Conjunctival Sac and its Bearing upon Surgical Procedure, by Dr. P. Chalmers Jameson of Brooklyn, N.Y. The bacteria found in the sac, of which pure cultures were made by Dr. Jameson, were the staphylococcus pyogenes

aureus, staphylococcus pyogenes albus, staphylococcus epidermis albus, aerobacillus citreus, xerosis bacillus, bacillus coli communis, and bacillus subtilis. These occurred in greatly varying frequency in different cases and under normal conditions do not propagate, the eye under ordinary circumstances being possessed of the means of antagonising bacterial growth. Dr. William Posey of Philadelphia and Dr. Edward Shumway describe a case of Alveolar Sarcoma of the Choroid. Dr. Edward Jackson of Denver, Colorado, in a short article shows that homatropin is a very reliable cycloplegic. Dr. L. Webster Fox of Philadelphia, Pa., recommends grattage of the conjunctiva for troublesome cases of spring catarrh. Dr. Carl Schulin of Helena, Mont., advocates the view that myopia and astigmatism are induced by the pressure of the lids and the conditions present during sleep; and lastly, there is an article by Dr. M. F. Weymann of St. Joseph, Mo., on Contusions of the Eye.

Archives of the Roentgen Ray. Vol. V., Nos. 1 and 2. London: Rebman, Limited. August, 1900, and January, 1901. Price 4*s.* each number.—The first of these numbers contains an interesting paper by Dr. R. N. Wolfenden and Dr. F. W. Forbes Ross on the Effects produced in Cultures of Micro-organisms, including Tubercle Bacilli, by Exposure to the Influence of an X-Ray Tube. The authors discuss the various factors which may possibly influence their growth, such as (1) the x rays, (2) the cathodal rays, (3) the disturbance of the electric field, and (4) the production of ozone, increase of temperature, &c. They sum up their conclusions as follows. It is impossible by any ordinary long exposure or exposure to a high vacuum tube to kill growths of bacilli or cocci, the apparent death in cultures so treated being due to exhaustion of vitality from excessive proliferation. These observations appear to be at direct variance with the results which are being universally obtained in the treatment of lupus with the x rays. A new apparatus for localisation is described by Dr. Rémy of Paris, with very good illustrations of the method of using the instrument. Mr. James Wimshurst, F.R.S., communicates a very full account of the development of his Influence Machine. This number also contains the President's Valedictory Address. The skiagrams at the end of the number are very good. Dr. Hugh Walsham contributes two skiagrams of Renal Calculi before and after the Removal of the Kidney. The second case is instructive as showing that we may be deceived as to the number of stones shown on the plate taken before operation. In this case the shadow of three stones are distinctly seen, but on taking a skiagram of the kidney after removal numerous stones are shown varying in size from a small bean to a pin's head. This is the first instance we have seen of a kidney with calculi radiographed after removal from the body. Staff-Surgeon Bassett-Smith gives a good skiagram of Fracture of Both Clavicles. The second number contains the opening address of the new President, Dr. John Macintyre of Glasgow, in which he reviews the Progress of the Science during the Past Year. Mr. Mackenzie Davidson gives a clear description of his very ingenious Stereoscopic Fluoroscope and Rotary Contact Breaker. Some very good skiagrams, mostly of bone disease, complete the number.

Golden Rules of Aural and Nasal Practice. By PHILIP R. W. DE SANTI, F.R.C.S. Eng., senior surgeon to outpatients, aural surgeon and lecturer on minor surgery and aural surgery, Westminster Hospital. Bristol: F. Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. Pp. 87. Price 1*s.*—Mr. de Santi has issued under the above title a short synopsis of these subjects. Of the two the nasal rules are the better, though not the more complete. The aural half contains some evidences of carelessness which do not enhance the value of the book—as that the ear-drum is divided into two quadrants, and that the surgeon should syringe along the upper or lower wall of the meatus instead of upper and posterior. Neither of these is quite a golden rule. To students who are anxious to obtain rapidly some information the book will be a distinct aid.

Burdett's Hospitals and Charities, 1901. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press. Price 5*s.* Pp. 1050.—This is the twelfth issue of Sir Henry Burdett's invaluable compilation and we really can say nothing new about the book, except that it is some 100 pages larger than its immediate predecessor. For information about hospitals, nursing homes, charities, hospital finance, convalescent homes *et hoc genus omne* there is but little known which cannot be found in "Burdett." He is the Whitaker of hospitals. We are glad to see a warning on p. 176 against the wiles of "professional philanthropists." The heart-rending appeals of these gentry must be familiar to all our readers, who probably know how to appraise them at their true value, but evidently some are still deceived, and to these Sir Henry Burdett's warning may be useful.

Helwân and the Egyptian Desert. By W. PAGE MAY, M.D. Lond., &c., with articles by Professor SAYCE and Professor SCHWEINFURTH. London: George Allan. 1901. Pp. 110. Price 3*s.*—This is an excellent little book and much above the ordinary type of health-resort guide. Its three chief sections are (1) that on the Archæology of Helwân and the District by Professor Sayce, a most interesting and instructive article; (2) that on the Flora of the Desert and a Description of Desert Conditions in Regard to Floral Life by Professor Schweinfurth; and (3) that on the Special Advantages of Helwân as a Health-resort in Winter. But the little volume contains much information also in reference to the amusements and sights of Cairo, is embellished with numerous and excellent photographs, and contains detailed information as to the different routes to Egypt and their respective advantages or disadvantages. It has also numerous tables of meteorological observations which no one is likely to read although their results are undoubtedly interesting and important. It is evident that Helwân is very well suited to become a favourite health-resort and also a winter resort for the healthy who are content to lead a quiet, wholesome life amid the remains of a remote but fascinating civilisation. In any case this book is to be recommended as one containing much reliable information in reference to the climatic winter conditions in Egypt generally and may be useful in helping intending visitors to make up their minds whether to go further south or to be content with a sojourn in what is undoubtedly the most accessible health-resort in Egypt.

ROYAL INSTITUTE OF PUBLIC HEALTH.—The provisional programme of the arrangements of the congress of the Royal Institute of Public Health, which will be held at Eastbourne from July 25th to 30th, has just been issued. The railway companies will issue return tickets to Eastbourne to delegates at a fare and a quarter, but to obtain these special tickets a form, which will be sent by the honorary secretaries, must be presented at the booking-office by those attending the congress. The London, Brighton, and South Coast Railway will issue return tickets from Eastbourne to neighbouring places to delegates at a fare and a quarter during the congress. Drives will be organised to various places of interest in the town and neighbourhood, and visits will be made in connexion with sanitary matters, drainage, &c. Special facilities are being arranged for delegates in connexion with entrance to Devonshire Park, the social and political clubs in Eastbourne, the Royal Eastbourne and the Willingdon Golf Clubs, the Eastbourne Cricket and Football Club, the Upperton Lawn Tennis Club, the Compton Croquet and other clubs. A special guide-book (with maps) is also being prepared for delegates.

THE LANCET.

LONDON: SATURDAY, JUNE 22, 1901.

The Meeting of the General Medical Council.

CONSIDERING the number and the delicacy of the questions which had to be discussed by the General Medical Council, we congratulate it upon the fact that its late meeting lasted only seven days, instead of eight or nine as did the two immediately preceding sessions. By common consent, all the more striking for being unexpressed, the subject of the registration of midwives was ignored. The reputation of the Council will in future turn very much on the way in which it can arrange its business and clear its programme of recurring questions. If it were not for two or three subjects which seem to fascinate the Council perennially, and to give occasion for endless discussion, there would be no reason that we can see why the session should cover more than five or six days, which would be the simplest and most creditable solution of its financial difficulties. At the same time it must be remembered that to ignore a question is not to settle it. What is required is progress. The best thing the Council can do is to come to right decisions, and the worst is to talk without coming to any decisions at all. The attempt to save time in the recent meeting was most evident in the arrangement of business and in bringing on the disciplinary work of the Council on the second instead of the third day of the session, and we welcome with pleasure evidence of a growing sense of the discredit accruing to the Council from fruitless discussions handed on hopelessly from one session to another.

There were two great questions before the Council this summer by the handling of which it will be very much judged, and in our opinion the Council cannot be wholly congratulated on its attitude in either case. The first of these questions was the serious difference between the English Royal Colleges and the General Medical Council with reference to the recognition of schools for the teaching of the preliminary sciences—chemistry, physics, and biology. This is now the third year in which the Council has had this most important subject before it. Some notion of the depth to which discord has reached may be got by considering that the Royal Colleges now no longer require candidates for their diplomas to be registered as medical students by the General Medical Council, though all parties in the Council, including distinguished Fellows of the Royal Colleges, regard such registration as a chief instrument in the Council's hands for controlling the preliminary education of the profession. It is not contended on either side that the Council has the power to enforce the registration of medical students, but all agree that registration has been very beneficial and that the action of the Royal Colleges in abandoning it deals a serious blow at the authority of the Council and its influence over education through registration. The risk to the system of registration brought about by the new regulations of the Royal Colleges, which no longer require registration of their students, has put into the shade the original difference between the Colleges and the Council. This new development of the dispute excited far more feeling in the Council than did the original question as to the right of the Council to dictate to the Colleges as to the bodies from which teaching in science should be accepted. But the question must be considered in its original form—Has the General Medical Council the right to demand that before recognising institutions for teaching science the Colleges shall see that they are *approved* by the General Medical Council? Which side is to blame for the complete *impasse* now reached is another point. The Colleges, ignoring the demand of the General Medical Council and its system of registration, acted, as they allege, in discharge of a function and a responsibility imposed on them by charter: the General Medical Council acted without the support of law, but with the moral authority of a council of medical education. The Council, we think, should have come to a decision, and the majority of its members expected the matter to be faced. It seemed probable at one time that a practical settlement would be reached. And here we have to recognise a new force in the Council in the person of Dr. NORMAN MOORE, whose familiarity with the facts of scientific teaching in general schools as well as with the facts affecting the efficiency of such teaching in medical schools and universities was made obvious directly he took part in the debate. Dr. NORMAN MOORE'S speeches, especially the speech of Saturday, June 8th, made a great impression on members of the Council, even on many, such as Sir CHRISTOPHER NIXON, who have always stoutly opposed the view of the Royal Colleges, chiefly on the ground that they were endangering the five years of the medical curriculum. Dr. NORMAN MOORE made it clear that the Colleges had never in one instance tampered with the requirement of the Council that five years should elapse from the time of registration as a medical student before qualification, and that this period should be spent in medical as distinguished from preliminary education. So strong was the impression thus produced that it went far to convince the Council that there was no practical difference between the objects of the Royal Colleges and those of the Council. The time seemed ripe for a resolution that would have conciliated both sides and led to a way out of the *impasse* when Dr. MCVAIL propounded a motion that the new regulations of the Royal Colleges, which had been supplied in full to the Council, "did not afford evidence that these courses of study were in all cases sufficient." He moved to this effect, the President ruled the motion to be in order, and Dr. MCVAIL only failed to carry it by two votes. The Council then contented itself with doing no more in the matter than sending to the Education Committee two proposals, of Dr. BRUCE and Mr. BALL respectively, for including chemistry, physics, and biology for the future in the subjects to be passed before the commencement of a four years' course of medical study. The complete *impasse*

between the Royal Colleges and the Council remains and we have before us the prospect of interminable discussion on the subjects involved.

But the most important subject with which the General Medical Council had to deal this summer was that of its own somewhat complicated finances. In this matter it had sought the advice of an expert, and the report of the expert was in its hands a month before the meeting. The great point brought out in that report was the existence of a tendency to such an annual excess of expenditure over income—amounting last year to £1037 11s. 1d.—as to involve the gradual diminution of the surpluses of the Branch Councils funds, and perhaps their extinction, as in the case of the Irish Branch Council. The expert recommended practically two things—first, that the distinction between the Council and its Branches for financial purposes should be disregarded; and secondly, that the fees of the members of the Council should be reduced. Though some of the members think seriously of the finances of the Council none of them mentioned the suggestion of the expert that the fees should be reduced. The only thing done by the Council was to refer the matter to a new committee with a curious special suggestion "to consider what amendments, if any, are necessary in the Medical Acts in order that the relations between the Council and its branches may be readjusted and the financial position of the Council placed on a satisfactory basis." This resolution does not, we hope, represent the mind of the Council, for it indefinitely postpones the financial adjustment which might easily be achieved. We think that the Council failed grievously to set a good professional example of the respect due to an expert, for they not only did not follow the opinion of their financial adviser, but they did not even discuss it.

Medical Defence and Protection.

THE annual reports of the Medical Defence Union and of the London and Counties Medical Protection Society for 1900, which have recently been received by us, are worthy of the attention not only of the subscribers to these bodies but of every practising member of the medical profession residing in Great Britain and Ireland. We can but ask those practitioners who do not insure in any defence or protection society to reconsider their position and we may (to quote from the report of the Medical Defence Union) remind them that "no qualified member of the profession can with any certainty say that he is absolutely secure from attacks from unscrupulous persons however able his treatment of the cases involved may have been." The report goes on to say: "These attacks are not confined to the practice of general practitioners; consultants of the highest position both in medicine and surgery have been obliged to ask the help of the Medical Defence Union in defending their professional honour from unjust and unjustifiable attempts to disparage it by charges of alleged malpraxis."

Opening with these important words of caution the Council of the Medical Defence Union proceed to show by various illustrative and interesting cases in what way those practitioners who have been attacked and have fortunately been members of the Union can be defended at the least possible trouble and anxiety to themselves personally and at no cost beyond the small subscription of 10s. per annum. The report also touches upon other matters of interest dealt with during the past year; for instance, the Lunacy Act with all its attendant evils and dangers to the unsuspecting practitioner who may be induced "for the sake of gain" to take into his house as a resident patient one who, although mentally deficient, is not in his opinion and that of others "certifiable" and yet later finds himself summoned by the Treasury, acting on behalf of the Lunacy Commissioners, for penalties under the said Act. Mr. W. E. HEMPSON, the solicitor to the Union, in his particular section of the report draws special attention to the risks run under the Lunacy Act as at present constituted, and we cannot better point a moral and adorn a tale than by quoting the words which he uses: "By Section 341 of the Lunacy Act, 1890, the word 'lunatic' is defined to mean 'an idiot or person of unsound mind.' By Section 315 (1) of the same Act it is enacted as follows: 'Every person who, except under the provisions of this Act, receives or detains a lunatic or alleged lunatic in an institution for lunatics, or for payment takes charge of, receives to board or lodge, or detains a lunatic or alleged lunatic in an unlicensed house, shall be guilty of a misdemeanour and in the latter case shall also be liable to a penalty not exceeding £50. Upon a strict construction of these two sections, therefore, any person who for payment takes charge of, or receives to board or lodge, or detains a lunatic or 'alleged lunatic' in an unlicensed house commits an offence within the meaning of the section. ..... That a lunatic is a person of unsound mind is a proposition which, I assume, may be accepted without discussion, but that every person who is of unsound mind is thereby to be pronounced a lunatic and to be controlled and treated as such is, in my opinion, a matter which was not contemplated in the Act nor intended to be enacted thereby. ..... The risk therefore is not confined to medical men, but would apply equally to the proprietor of an hotel or boarding-house." Mr. HEMPSON suggests that further legislation is required to remove from the path of medical men a danger which, in his opinion, was never contemplated by the original act, and he suggests that an extension of the word "lunatic" to mean a person of unsound mind and medically certifiable as "a proper person to be taken charge of and detained under care and treatment" would solve the difficulty. This proposal appears to be a sound one, and it behoves those who are interested to take the necessary steps to remove the existence of a danger both to the public and to the profession. It appears from the report that the number of legal cases referred by the Council of the Union to the solicitor was 140, and that of these cases 49 were actions for libel and slander. Of the remainder 26 involved the defence of members of the Union in actions either threatened or brought against them for malpraxis; 48 related to actions taken or defended in matters other than slanderous or libellous, and 17 cases were actions against unqualified practitioners or for the purpose of the suppression of such practice. Some illustrative cases dealt with under the heading of "Libel and Slander" are given

by the Council, and in each and every case the Union was victorious. The Council deplore the inability of recovering costs from persons who without means can yet, with the aid of speculative solicitors, move the ponderous wheels of the legal machinery, or, in other words, bring actions which must be defended at whatever cost to the Union.

The schedule of cases occupies as usual many pages of the report and is indicative of the varied matter which comes before the executive to be dealt with daily. The funds of the Union are again found ample to meet the annual expenditure—a loss of about £100 owing to the defalcations of a trusted clerk being covered, it is reported, by the policy of guarantee wisely taken out by the Council.

The London and Counties Medical Protection Society has not such a large roll of members as the Medical Defence Union, but has nevertheless performed excellent and useful work. Especial attention has been paid to the interests of the dental section, as was shown by the charges brought against certain dentists practising at Nottingham before the General Medical Council at the recent sessions, when the secretary of the society appeared to prosecute, and amply justified the course adopted by the society in bringing the matter of objectionable advertising before the Council. Unceasing efforts have also been made by the society to suppress unqualified practice, but unfortunately the highly unsatisfactory state of the law enables quacks to continue their evil practices with impunity. In no department of commercial enterprise can money be more easily obtained by false pretences than by quacks purporting to cure all diseases by inventions of their own, and it is very seldom that a conviction can be obtained in spite of repeated attempts on the part of the two bodies to whose reports we are referring. Drastic alterations in the present laws are needed, but the legislature shows no signs of protecting the public from some of the greatest swindlers of modern times. Unfortunately, it is precisely that class of the community which can least well afford it that is mainly victimised—namely, those who are dependent upon their daily work for their livelihood; the better educated are, as a rule, not so easily deceived. Little wonder is it, then, that the secretary of the London and Counties Medical Protection Society was obliged to state that the council of the society had not seen its way to carry out the prosecution of a quack during 1900. The society, however, will doubtless not diminish its endeavours to bring about an alteration in the existing laws, so that greater facilities will be given to lessen an evil which cannot be exaggerated.

In conclusion, we would strongly urge upon practitioners throughout the kingdom the importance of belonging to one or other of the two bodies whose work we have been referring to; by so doing the power of these associations will be greatly increased to the advantage not only of the individual members but of the profession in general.

The British Congress on Tuberculosis.

THE British Congress on Tuberculosis, which will be held in London from Monday, July 22nd, to Friday, July 26th, is attracting widespread interest and attention. Numerous foreign delegates will be present to add their testimony to the value of the investigations which are everywhere being made into the methods of combating one of the most universally prevalent and fatal maladies and one which attacks man and beasts. Our knowledge of the nature of tuberculosis has made great strides during the last two decades, and an assemblage of scientific men met together with the simple purpose to set forth individual observations and to discuss the many diverse problems connected with the disease—to take stock of the state of opinion as regards the causes, pathology, treatment, and prevention of tuberculosis—cannot fail to be of the greatest benefit not only to individuals but to mankind in general.

The public are very quick to take up any new theory or method of "cure" of tuberculosis, especially the pulmonary variety, which may be introduced, and all the more if it be injudiciously lauded by the lay press. This unfortunately not infrequently happens, and therefore a congress of genuine investigators is of real importance as the proceedings will tend to set in their proper place the therapeutic measures which have not fulfilled the hopes at one time expressed for them, and to bring more into prominence those which extended experience has shown to be successful. The "open-air" treatment of tuberculosis will thus receive considerable attention and naturally the much-disputed influence of climate will be carefully discussed. There are certain aspects of tuberculosis which it is important that the laity should know something about. The words used by His Majesty the KING, then PRINCE OF WALES, in opening the International Congress of Hygiene in 1891 have become historical. "If preventable, then why not prevented?" This phrase is particularly applicable to tuberculosis, but the general public require to be educated before the necessary measures can be carried out by which, without undue interference with the "liberty of the subject," chances of infection may be reduced to a minimum. Twenty years ago heredity was considered one of the main etiological factors in tuberculosis. The discovery of the pathogenic bacillus by Professor KOCH greatly reduced the importance of heredity, and some authorities would seem to go so far as almost to discard it. This, however, is carrying bacteriological views to an extreme. The bacillus alone is obviously not the sole cause of the disease, otherwise the human species would long ago have become extinct. The exact nature of the second etiological factor (there may be several) we are not as yet acquainted with; certain terms are employed concerning it which are somewhat vague, such as "suitable pabulum" or "deficient resistance"; and probably heredity plays no inconsiderable part, although not so important a one as was originally thought, in conferring on the offspring of tuberculous parents a diminished power of resistance to the attacks of the bacillus. An overpowering predominance of opinion, however, points towards infection as the most powerful agent in the spread of the disease; and while the medical profession can do much towards lessening the mischief by observation of the habits of their patients and careful tuition, the carrying out of the hygienic instructions rests mainly with the

sufferers themselves. The open-air establishments which have been, and are being, formed in various parts of the country serve not only as places where patients undergo treatment, but act as most valuable schools to educate those who might spread infection as to the measures they must adopt to prevent themselves from becoming objects of danger to their fellow-creatures. The conclusions arrived at by the members of the Congress will doubtless accentuate the importance of such institutions and will happily support the endeavours which are being made by public bodies and societies to spread the necessary information amongst all classes of the community. A further use of congresses such as the one which is to meet in London next month is that the resolutions which they pass may lead to important representations being made to the Legislature. There is ample scope for such in regard to tuberculosis, and the many important subjects to be discussed by the Veterinary Section and the State and Municipal Section of the British Congress on Tuberculosis may, we hope, lead to the introduction of certain obvious measures against the spread of tuberculosis both in man and animals.

Annotations.

"Ne quid nimis."

THE ARMY MEDICAL SERVICE.

THERE is still no news to report with regard to the intentions of the War Office. The Secretary of State for War maintains his sphinx-like attitude and the situation can perhaps best be described in the words of Jeames de la Pluche as "wropt in mystry." What possible benefit there can be to anybody in keeping up this mystery we are at a loss to understand and nobody seems to possess any sort of clue to the reasons which dictate the curious policy. On one point all members of the profession whose views we have ascertained seem to be agreed—i.e., that the course pursued by the War Office is not very complimentary either to the Army Medical Service in particular or to the profession in general. Why cannot the name of the new Director-General be announced? If it be that the appointment is to be held over until a committee has made inquiry and completed its report the delay would be at all events intelligible (though it might suggest some doubt as to the expediency of allowing Director-General Jameson to retire at the present moment). We have excellent reason to believe that this committee of experts has already been constituted. Why are not the names of its members made known to the public? We cannot understand the spirit of secrecy which prevails and we deprecate it very strongly. At the dinner of the Royal Army Medical Corps on Monday evening last more than one speaker alluded to the want of sympathy that was shown in certain quarters with the Army Medical Service. This want of sympathy and, we may add, of confidence, is only too well illustrated by the attitude adopted by Mr. Brodrick who may have adequate reasons for delay, but if he has he owes it to the profession to explain those reasons. As we have previously said, all the doubts and uncertainty that prevail are doing no good. The profession is anxious to supply the country with the best medical service in the world, and it will do so if it be consulted and properly treated. Will not the War Minister give us that opportunity?

HOSPITAL SUNDAY AND THE NATIONAL ANTI-VIVISECTION SOCIETY.

LAST Sunday, June 16th, was Hospital Sunday, the one day in the year when nearly all Christians and non-Christians lay aside their differences and unite in trying to do their utmost to help the sick, the poor, and the needy. We say "nearly all" because the National Anti-Vivisection Society and its energetic honorary secretary, Mr. Stephen Coleridge, introduced a false note into the harmony by causing to be distributed at church doors a leaflet quoting a letter which had "been sent to the incumbent of this church" asking the said incumbent to use his influence to insure the payment of the subscriptions of his congregation to those hospitals only "that make no such diversions from their general funds." The "such diversions" were sums granted to the support of medical schools "which are places wherein animals are vivisected." We are glad to see that the incumbent did not reply to Mr. Coleridge, and therefore that "the National Anti-vivisection Society desires to place the letter before you and to inform you that should you wish to have full information on this matter before giving your money to the Mansion House Fund, such information will be found in the 'Guide to the Charitable' issued by the society which will be supplied to you gratis on application at the society's office, 92, Victoria-street, Westminster." We applied for the "Guide to the Charitable," the proper title of which is "A Guide for the Charitable in the Disposition of their Gifts and Bequests," but we were charged 3*d*. However, let that pass; we simply say that Mr. Coleridge's action "is not cricket," it is not the way to play the game. We are not alone in this opinion, as is exemplified by Canon Fleming's letter in the *Times* of June 17th. Mr. Coleridge deliberately charges the Hospital Sunday Fund and the authorities of hospitals with malversation. The medical education given in a medical school is as much for the benefit of the patients as are bandages, beds, or drugs, and the hospital authorities have a perfect right to subsidise their schools if they like. We cannot check the accuracy of all Mr. Coleridge's statements, but we notice that in the account of Charing Cross Hospital it is stated in red ink that "Drs. Phillips and Arkle, though not otherwise connected with the hospital or the school, are licensed to perform experiments at the medical school." Dr. Phillips may be, but Dr. C. Arkle has been dead since 1899. Nothing that Mr. Coleridge or anyone else can say will alter our opinion of his action, so he may spare himself the trouble of writing two-column letters to us. There is apparently one incumbent who has taken up the attitude of running with the hare and hunting with the hounds, for according to a contemporary Archdeacon Wilberforce, unwilling completely to boycott the Hospital Sunday Fund on account of "vivisection," intended to have two collections, the proceeds of one of them to be devoted to some hospital or hospitals defined as "non-vivisectionist." Whether the venerable gentleman mentioned actually conceived or carried out any such plan we do not know, but it is to be hoped that he or any other clergyman who addressed a congregation on the question of experiments on animals and its bearing upon subscriptions to hospitals was discerning or candid enough to point out in doing so that the conscientious "anti-vivisectionist" who does not subscribe to the Hospital Sunday Fund on account of experiments made in individual hospitals must equally refuse to contribute to any hospital in which any operation is ever performed or any drug administered the effect of which was originally tested in any hospital or laboratory by experiment upon any living thing, except only upon a human being, and we need hardly add that in order to be thoroughly consistent the "anti-vivisectionist" must also decline to avail himself of surgical or medical science in most of the ills that may happen to him, or he will himself be profiting by "vivisection."

As, however, every progressive step in medicine or surgery must in the nature of things be an experiment, the "anti-vivisectionist" at the present moment has three courses open to him. He may proclaim himself an enemy to all progress in medicine and surgery and subscribe to nothing; or he may endeavour to discover a hospital in which all the work done is based upon experiments made not upon animals but upon patients, although where he will find this institution we cannot pretend to say; or, thirdly, he can still reconsider his position and send a belated but acceptable contribution to the Hospital Sunday Fund.

FOOD STANDARDS.

A MOST important announcement has been made in Parliament to the effect that it is proposed to fix a standard for milk under which, for the purposes of the Sale of Food and Drugs Acts, a presumption would be raised that milk was not genuine unless it contained 3 per cent. of milk-fat and 8·5 per cent. of non-fatty milk solids. Regulations to this effect are being prepared, and it is suggested that these regulations should come into force on August 1st. The principle of standards for food becomes thus officially recognised, and this experiment in legislation will be watched with interest while doubtless in some quarters it will be viewed with dismay. The question of adopting standards in the matter of milk has been discussed for a great many years, and many persons have doubted the feasibility of insisting upon any limits, but public analysts have long recognised the necessity of having a legal limitation, if the evidence of analysis is not to be brought into discredit and if the adulteration of milk with water in particular is to be suppressed. For years past the Society of Public Analysts have adopted as minimal limits for fats 3 per cent. by weight, and for solids not fat 8·5 per cent. by weight, and these limits have been accepted as satisfactory by most analytical chemists not only in this but in other countries. It is well known, of course, that milk occasionally falls below this standard, although there may be no doubt about its derivation straight from the cow. But such cases are exceptional and should be regarded as abnormal. In the experience of those who deal every day with the composition of a variety of milks the limit of 3 per cent. of fat is quite reasonable for the mixed milk of the whole herd. Genuine milk rarely, if ever, falls below this limit. Moreover, this limit allows, we think, for all seasonal variations. The question remains whether particularly rich milk will, in view of a legal requirement, be diluted down to the standard. This possibility is perhaps the only serious argument against the principle of standardisation. We have suggested more than once that the buyer of milk should obtain a guarantee from the seller of the quality of the milk supplied and no reasonable person would object to pay a price in accordance with this quality. We certainly do not think that the legalisation of a standard will be a hardship to the milk-dealer. The attenuation of milk by the abstraction of cream or by the addition of water is a much too favourite practice and it must be stopped. The adoption of a standard will, we believe, have the effect of improving the quality of the milk supplied, and the Society of Public Analysts may be congratulated upon the fact that the Government have adopted exactly the limits and standards of milk which the society decided upon for the guidance of their members in active practice some years ago. Other questions are also pressing in regard to the laying down of standards for foods, and a committee is shortly to be nominated by the President of the Board of Agriculture who will be asked to consider a large amount of evidence on the proposal to adopt a butter standard. The administration of the Food and Drugs Act has been a much-debated subject by parliamentary committees during the past few years, but nothing so definite as the proposal of food standards—though, as we have urged all along, such standards were required to clear away many difficulties—has ever been decided upon. No subject has ever given rise to more contention than that of fixing standards for food, but it would seem that at last this country is to adopt a method of administration on the same lines as have been adopted by other countries years ago, lines which experience teaches to have been expedient and productive of public good.

THE COMPLIMENTARY DINNER TO SURGEON-GENERAL JAMESON, C.B.

THE complimentary dinner to be given to Surgeon-General Jameson, C.B., will take place on Wednesday, July 24th, at the Hotel Cecil. The cost of the tickets will be 25*s*. All members of the medical profession, whether in His Majesty's services or not, are invited to attend. Gentlemen who wish to be present are requested to send their names to one of the honorary secretaries, Mr. G. Lenthal Cheatle, C.B., F.R.C.S. Eng., 117, Harley-street, W., or to Mr. Cuthbert S. Wallace, F.R.C.S. Eng., 75, Lambeth Palace-road, S.E., who will communicate with them with regard to details.

PLAGUE IN CAPE COLONY.

A TELEGRAM received at the Colonial Office on June 13th, gives the following statistics of plague at Cape Town for the week ending June 8th. Fresh cases: Europeans, 7; coloured persons, 2; Malays, 4; Indians, Chinese, Natives, 0; total, 13. Corpses found: Europeans, 0; coloured persons, 2; Indian, 1; Malays, Chinese, Natives, 0; total, 3. Deaths (including corpses found), Europeans, 1; coloured persons, 5; Malay, 1; Indian, 1; Chinese, Natives, 0; total, 8. The total cases up to June 8th are as follows: Europeans, 180; coloured persons, 313; Malays, 53; Indians, 11; Chinese, 1; Natives, 142; total, 700. The total deaths have been—Europeans, 58; coloured persons, 164; Malays, 36; Indians, 9; Chinese, 0; Natives, 59; total, 326. One case has occurred under naval and military control. The area of infection remains unchanged.

THE RATING OF WATER RESERVOIRS.

THE rating of water reservoirs is likely to engage some attention in the near future. In the neighbourhood of Hampton and Sunbury, in addition to the immense reservoirs already existing, it is in contemplation to cover something like 6000 square acres, or about 10 square miles, for additional storage. Recently the Hampton-on-Thames Urban District Council rated some of these massively-constructed water stores on the same basis as any other building used for the storage of goods. This the water companies resisted and a test case was submitted to the House of Lords. It was held that a reservoir was chargeable only as land covered by water, and under Section 211 of the Public Health Act, 1875, was rateable at one-fourth only of the full rateable value. The inhabitants of Hampton and Sunbury, who have recently been spending large sums upon sewerage systems and disposal works, feel greatly aggrieved at this wholesale diminution of their prospective income. At a public meeting held at Sunbury on June 3rd heroic measures were resolved upon. The existing law was pronounced to be iniquitous and unjust; it was determined that it must be altered and steps were resolved upon towards forming a combination with other urban district councils to achieve the reform. Although they have a distinct case, the inhabitants of Hampton and Sunbury will be well advised not to go too quickly. Superficially it seems an anomaly that one structure costing many thousands of pounds, used for the storage of a marketable commodity sold at a profit, should be rated

at a lower standard than another simply on account of its contents. It is also hard that a rural suburb, renowned for its sylvan beauties, should be denuded of its trees and generally rendered more or less hideous, while the wealthier resident population is driven away, to the general detriment of the remainder, and this without any compensatory advantage. But, on the other hand, very many years would elapse before 6000 square acres in the district would be covered with ordinary buildings, paying the full rating. The urban district council would in the meanwhile have to spend large sums upon miles of sewers and paving, would have to maintain roads—which means lighting and watering—and would also have to pay for police work, while an increase of the indigent population would be certain. These expenses in the case of the reservoirs are almost nominal, whilst the water companies are even now voluntarily paying the full rating on the poor-rate. The people of Hampton and Sunbury will be prudent to consider further before engaging in a Quixotic attempt to reform the existing law. It is very doubtful if much support will be extended to them from other district councils, very few indeed of which are in a parallel position.

INTERMITTENT CLAUDICATION OR LIMPING: ITS PATHOLOGY AND TREATMENT.

PROFESSOR DAVID RIESMAN of the University of Pennsylvania deals, in *American Medicine* of May 25th, with the interesting and somewhat rare condition known as "intermittent claudication"—a phenomenon first described by Charcot in 1858. The expression was then borrowed from veterinary medicine, in which it was employed to designate an intermittent painful limping or paralysis occurring in horses. Recently attention has been drawn to this condition in man by the studies of Erb and Goldflam. The cardinal symptoms in the human subject are as follows. The patient starts out to walk and does so for a short distance with perfect or almost perfect ease. Then he begins to experience pain and numbness, and often a distressing cramp in one or both legs, usually in the calves or feet. Further walking becomes difficult or impossible and he is compelled to rest. After a few minutes, however, locomotion can be resumed, only to be again interrupted by a return of the pain and cramps in the legs. The patient thus has intermittent attacks of limping. Physical examination of the legs shows a very characteristic symptom—viz., an absence of pulsation in the arteries of the feet, chiefly the dorsalis pedis and often the posterior tibial artery. Professor Riesman states that pulsation of the dorsalis pedis artery is never absent in health, and Erb noted its presence in 99 per cent. of general hospital patients, its absence in 1 per cent. being due to œdema of the legs, elephantiasis, or arterio-sclerosis, all of which acted as obstructions to the circulation in the affected limb. Sensation in the limbs was normal in patients who had intermittent claudication, but paræsthesia (numbness, formication), pain, and coldness might be present, while pallor and dryness of the skin of the legs were common. That it was important to recognise the disease was shown by the fact that gangrene occurred seven times in 24 cases collected by Goldflam. The majority of patients are of the male sex—11 out of 12 observed by Erb and all the 24 cases of Goldflam—the ages varying from 32 to 60 years. Pathologically the most important lesion is an obliterating endarteritis in the lower limbs, similar to that found by Mitchell and Spiller in the arteries of the toe in erythromelalgia. Among the etiological factors were syphilis, alcohol, exposure, tobacco, and perhaps diabetes. As, however, arterio-sclerosis is common and intermittent claudication is rare it is necessary to assume that other factors contributed to bring about the latter affection. Charcot inclined to the belief that the muscles lost their irritability and possibly suffered a change analogous to cadaveric rigidity, as in the well-known experiment of Stannius of ligature of the abdominal aorta in animals. It is interesting to note that the majority of the patients whose histories are recorded were excessive users of tobacco and were of the Hebrew race. The following case is illustrative. A man, aged 39 years, a travelling salesman, had smoked and chewed tobacco to excess all his life. He then became ill with muscular rheumatism (?) and had to take to his bed. He lost flesh considerably after this. One day, while walking, he experienced severe and sudden pain in the sole of the left foot and had to take a cab to reach his home. After this he developed all the symptoms of intermittent claudication. In June, 1900, he had an obscure "attack" with loss of speech and of power in the right arm, but apparently recovered after two weeks' treatment with iodides. Pulsation was now noticed to be absent from the dorsal artery of the left foot and to be slight in the right. Some improvement resulted from treatment with hydrargyrum and iodides, but only temporarily. Professor Riesman says that diet should be largely vegetable and that red meats, alcohol, tea, coffee, and tobacco should be forbidden during treatment. Alkaline waters are helpful. Fatigue should be carefully avoided. Massage did not prove helpful in the present case.

SELF-DRUGGING.

THE pernicious habit of self-drugging has grown to be a source of untold mischief. It is greatly assisted by the enormous improvements which have been brought about in recent years in pharmaceutical preparations. 30 or 40 years ago medicines were bulky and had to be taken in large doses of generally a nauseating flavour. But now, owing to the invention of the various "-oids," "-forms," "-ettes," and "-ines," medicines can be taken in small doses and with a minimum of trouble. The columns of the daily press are given up to flaming advertisements setting forth in more or less scientific language the various feelings of *malaise* engendered by hepatic insufficiency and constipation, and the sufferer is assured that if he will take some or other preparation "that tired feeling" or any other of the thousand-and-one symptoms attributable to dyspepsia or lithæmia will vanish like a dream when one awaketh. The advertisements to which we take exception are not quack medicines. They undoubtedly are useful in the condition described under certain circumstances. But the dangerous thing about them is that they induce the public to drug themselves and very possibly to omit to seek treatment for what may not be simply constipation, gout, or dyspepsia, but possibly the outcome of malignant disease. This is why we think that such advertisements are in no way right. They are, if not intentionally deceptive, at all events practically so.

THE NEW RADCLIFFE LIBRARY AT OXFORD.

JOHN RADCLIFFE, M.D., by his will dated Sept. 13th, 1714, bequeathed most of his property to the University of Oxford, and one of the results of this will was the Radcliffe Library which was completed in 1747. In a Convocation held at Oxford on Tuesday last the degree of D.C.L. *honoris causâ* was conferred upon Cornelius C. Dalton, C.B., Master of the Drapers' Company, on the occasion of the formal handing over to the University of the new Radcliffe Library built by the Company at a cost of over £21,000. The building adjoins the museum and has been erected in the Renaissance style from the design of Mr. T. G. Jackson who has already done such good work for Oxford. The Drapers' Company being in the possession of funds now no longer

applicable to their original purpose, it occurred to them whilst Dr. Henry Bond, the principal of Hertford College, was serving his term of office as Master of the Drapers' Company, that some of these funds might be devoted to the teaching of science in the University of Oxford. Dr. Bond approached the University on the matter and the new library was the outcome. This was the little history of the movement which Dr. Dalton gave on handing over the buildings to the University. We are happy to be able to add our meed of congratulation to the Drapers' Company for their munificent action. The great City companies have often been threatened with spoliation by those whose desire seems always to be to take away from him that hath, but so long as corporate bodies distribute their wealth after the manner of the Drapers' Company there is but little fear that they will be robbed.

THE MEDICAL ACTS AMENDMENT BILL.

THE Medical Acts Amendment Bill was introduced in the House of Commons by Sir Richard Jebb, M.P. for Cambridge University, on Monday last. This Bill gives the General Medical Council power to erase from the Medical Register for a limited period the name of a registered practitioner who has been adjudged guilty of misconduct in a professional respect. The General Medical Council would thus be able to deal fitly with cases which can be met by temporary suspension from practice. A second object of the Bill is to enable medical authorities to deprive a practitioner whose name has been erased from the Medical Register of the degrees or diplomas obtained from that authority. At present the bodies which grant registrable qualifications do not all possess the same powers of taking them away from unworthy persons. The Bill also provides that penalties recoverable under the Medical Acts shall be paid to the General Medical Council. The measure is well backed and should become law.

"THE EXTERMINATING COLLECTOR."

IN an annotation published under the above heading, which appeared in THE LANCET of June 8th, p. 1613, we commented upon sundry statements made in letters to the *Times* written by Professor L. C. Miall and Professor R. Meldola concerning a programme of field studies in natural history which was issued apparently by the Essex Technical Instruction Committee, Biology Section. We say "apparently" because Professor Meldola said that the programme was unofficial. Mr. David Houston, F.L.S., has now sent us a copy of the programme in question which is, however, headed "County of Essex Technical Instruction Committee," by which we see that with regard to the vacation course in the New Forest, "members of the party will of course refrain from up-rooting rare or scarce specimens." The paragraph about collecting duplicates which appears on p. 7 of the programme does not refer to the New Forest but to "the Saturday or other rambles" in Essex. We may therefore possibly have been wrong in assuming the Essex Technical Instruction Committee to be wishful to collect rare plants in the New Forest, but why does Mr. Houston on p. 9 point out that four plants specially named as "rare" should be "particularly sought after"? All the same we most earnestly hope that most stringent measures will be taken to preserve not only our rare flowers and plants but also our rare animals. Only recently we have seen reported in the daily press the destruction of the badger and the otter, both wild animals, of which there are far too few. Granted that the otter destroys fish and the badger eats rabbits there is no reason why the angler should have his sport protected at the expense of such an interesting animal as the otter, and as for rabbits they are so prolific that the few eaten by a badger can make little or no difference. If the destruction of pheasants or partridges can be laid at the badger's door we suppose that he will have to go, but we fancy that the hedgehog is a greater criminal in this respect, at any rate, as regards eggs. Wild life in England is in a parlous condition and those animals which remain should, in our opinion, be protected as far as possible.

EPSOM COLLEGE.

THE preliminary list of stewards of the festival dinner of the Royal Medical Benevolent College, Epsom, to be held at the Hotel Cecil, on Tuesday, July 9th, in aid of the fund for the pensioners and foundation scholars of the college, will be found in our advertising columns and promises well for the success of the object in view. We have often commended this excellent institution to the consideration of the medical profession and take this opportunity of doing so again. Epsom College ought to be supported by every medical man in the country, for the work that it does is of immense value. The pensions that it distributes represent to some of our old and unfortunate brethren the difference between life and death, while the service that it renders to the orphan children of medical men can with difficulty be calculated. Would that Epsom College could grant more pensions and receive within its walls more foundation scholars. At the present moment, however, the institution finds it almost impossible to respond to the calls made upon it, and we would urge upon our readers that they should make an attempt to support it by donations and regular subscriptions.

NATURE AND TREATMENT OF DIPSOMANIA.

DR. P. C. REMONDINO of Los Angeles, California, in a paper on dipsomania contributed to the April number of the *Quarterly Journal of Inebriety*, draws attention to the singular features in the history of the dipsomaniac—viz., the recklessness manifested in the period of drinking while it lasts and the practice, for the most part, of total abstinence during the interval. He also makes certain practical suggestions regarding the climatic treatment of these cases, drawn from a specially large experience in them. Members of the dipsomaniacal class are to be found in all ranks of society, and it has long been a mystery to their friends how men of intellectual culture and even of refinement can continue to repeat such orgies of drink and dissipation, of the consequences of which they are fully conscious in the intervals. One of the cases recorded was that of a medical man, a person of "high intellectual culture and morals" and always in the enjoyment of excellent health. His periodic attacks would begin in most unusual fashion. For days before an attack he would cautiously gather bottles of brandy, gin, whisky, or other liquor, and secrete them in places likely to escape detection—e.g., in his hunting-boots, behind books in bookcases, and in other corners. When all was ready his spell of debauchery would be inaugurated at nightfall. Being missed at meals by his friends, who always feared the cause of his disappearance, he would be found in his room in a "glorious state of intoxication." He would walk up and down in a rigidly erect attitude, hardly able to articulate, and his eyes would have a wild, fixed, and unnatural stare. As many bottles as could be found would be removed, but the patient would still manage to get a few from their hiding-places and so finish his drinking spell—an ending that always came when his stomach refused to hold liquor any longer. A week of retching and vomiting, with headache, would follow, and he would suffer from attacks of deep contrition and slight suicidal promptings. He would then leave home for a fortnight's rest and convalescence, and return to his work in good condition. In a second case the patient's attacks followed overwork and cerebral fatigue.

He would then take a tonic (tincture of cinchona or other alcoholic drug) and repeat the dose a few times "to steady himself" as he said. The craving for drink would now come upon him with great intensity and he would drink until he passed into a helpless stupor and his stomach refused any more. Then followed days of intense neuralgia, gastralgia, "heavings," and repentance. When quite sobered he would read and study books on temperance, and, perhaps, deliver a lecture on the benefits of total abstinence before some local temperance association and rejoin some lodge which would receive him as a brand saved from the burning. After this he would remain an exemplary teetotaler until some new accident hurled him from grace. The periods of strict temperance in this patient lasted from a few months to two years. In two other cases, both laymen of more than average intelligence, attacks of dipsomania would be brought on "through the influence of a peculiar hysterical condition of the whole nervous system," precipitated by any excitement in social or municipal matters in which they took part. An unfortunate condition of unstable equilibrium and weakness of the nervous system would result, which imperatively called for some stimulant in these two persons. Dr. Remondino points out that in cases of dipsomania a neurotic heredity was often present. In the case of one patient with a gouty taint and of another with chronic malaria, cures of the dipsomania were effected by treatment of these bodily disorders, and in the latter case removal to a more congenial climate made the cure permanent. A humid and temperate climate with a "sedative" atmosphere was better than a hot and dry one for dipsomaniacs. Occasional cures might be effected by auto-suggestion or by hypnotic treatment.

PAPER AS A WRAPPER.

NOT the smallest use amongst the great variety of uses to which paper is put is that of a wrapper and it would be hard to find a substitute. There is, of course, a special paper made for wrapping articles of food—as, for instance, butter, biscuits, and tea—but very frequently, and especially amongst the poor, almost any paper material is employed for the purpose. Thus a pennyworth of pease-pudding is commonly supplied in a piece of any old waste newspaper, or in the same way a slice of boiling hot ham, a bloater, or a well-oiled slice of fried fish. Some commodities, indeed, are supplied even in a well-nigh liquid state in this way. A boy in the street may frequently be seen licking his pennyworth of tamarind preserve from a piece of newspaper. The spectacle is not very edifying, and when we think of the possibility of the paper and the heavily-inked print upon it containing injurious substances we may shudder. Of course, the ubiquitous organism is bound to be present and not unlikely it may be a pathogenic one considering the dirty environment under which waste newspaper is frequently to be seen. In these days, too, when science would seem to show that arsenic in varying quantities is as ubiquitous as the microbe, the newspaper may become a dangerous wrapper. Such things as salt meats or salt fish would be calculated to exert a solvent action upon any irritant present. The print may often be found reproduced on the fat of a slice of salt beef or on the daub of pease-pudding. This aspect of the purity of newspapers is, therefore, worth considering and we are glad to be able to record, as the result of a recent inquiry in the laboratory, that at any rate the London newspapers are as a rule free from any reproachable substance. This is all the more satisfactory when we consider the cheapness nowadays with which newspaper production is required to be done. We have examined the penny newspapers and the halfpenny newspapers, the white newspapers and the coloured newspapers, but in no case could we find even traces of substances that are regarded as injurious. And this result exonerates also the printing ink, although we found when operating upon printing ink in bulk just the bare indication of arsenic, but the quantity of printing ink operated upon would represent a whole file of papers. Possibly a trace of arsenic occurs in the Prussian blue used in printing ink. Even the coloured evening newspapers are free from objection, although an aniline dye is calculated to excite suspicion. However, the green *Westminster Gazette*, the pink *Evening News*, *Star*, *Globe*, and *Sun*, were alike found to contain innocent colourings in infinitesimal quantity, while no irritants could be found on analysis. Of course the manufacture of paper involves the use of chemicals, notably lime, soda ash, chlorine, sulphuric acid, chromium salts, hydrochloric acid, and alum, and it is conceivable that in careless or cheap manufacture these substances or their impurities, amongst which may be reckoned arsenic, might be retained in the paper. In the light of our examination, however, the London newspapers at any rate may be said to be satisfactory on these heads, and therefore any objection against the use of the newspaper as a food-wrapper, apart from bacteriological possibilities, can only be sentimental.

THE BONES OF ST. THOMAS OF CANTERBURY.

"WHERE are now the bones of the famous and wise goldsmith, Weland? I call him wise, for the man of skill can never lose his cunning and can no more be deprived of it than the sun may be moved from his station. Where are now Weland's bones or who knoweth now where they are?" So wrote our great King Alfred more than 1000 years ago in his translation of the "De Consolatione" of Boethius in one of the reflective passages with which he interlarded the original text. The words came forcibly to our minds on seeing the little pamphlet by Mr. Pugin Thornton entitled, "Becket's Bones."[1] The pamphlet arose from the discovery of some bones in the crypt of Canterbury Cathedral during some excavations made in 1888. They were lying in a coffin within a few feet of the tomb in the crypt where the great archbishop was buried in 1170. From this tomb his bones were removed to the shrine in Trinity Chapel, where they rested undisturbed until the advent of Henry VIII. Mr. Pugin Thornton discusses the question as to whether or not the bones found are the bones of one who in his time was the most popular English saint. He comes to the conclusion that they probably are and gives eight reasons for so doing. Among these are the following. Apart from the evidence of injury to the skull the bones evidently belonged to a tall man, and Becket was over six feet in height. They had evidently been reburied in the place where they were found, for they were arranged in a certain order, the long bones crossing one another. We should say that the late Father Morris who was at first in favour of the bones being those of the saint afterwards argued strongly against this view. After Mr. Thornton's examination the bones were re-interred where they were found, but no inscription marks the site. We think that a hypothetical inscription might well be added, for except the building itself we fancy that there is no memorial of the Archbishop in the cathedral, and whether we look upon him merely as an Archbishop or as St. Thomas of Canterbury there is no doubt that he was a very great man. Apart from his influence in life he exercised for centuries after his death an influence over the thoughts, the minds, and the literature of Englishmen to which it is hard to find a parallel. Perhaps his memory is best preserved by the "Canterbury Tales" and by the solemn yew trees which

[1] Becket's Bones. By W. Pugin Thornton. Canterbury: Messrs. Cross and Jackman. 1901. Pp. 16. Price 1s.

mark the Pilgrim's Way from Southampton to Canterbury through Surrey and Kent. But, as Sir Thomas Browne says, "Who knows the fate of his bones or how often he is to be buried? Who hath the oracle of his ashes or whither they are to be scattered?"

PRACTICAL MICROSCOPY.

As the medical profession is interested in the study of microscopy our readers may like to know that a new series of articles dealing with the practical side of microscopy, together with notes and queries, correspondence, and descriptions of new apparatus, are appearing each month in *Knowledge* under the editorship of Mr. M. I. Cross. The articles give good and practical information on the subject, and being edited by one of the joint authors of the well-known handbook, "Modern Microscopy," are sure to prove valuable.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

THE provincial meeting of this society will be held on Saturday, June 29th, at the Medical Institution, Hope-street, Liverpool. From 3.30 P.M. to 5 P.M. there will be an informal exhibition of cases by Mr. Robert Jones, Dr. James Barr, Dr. C. J. Macalister, Mr. G. P. Newbolt, Mr. K. W. Monsarrat, and others, and at 5 P.M. the following papers will be read: Some Remarks on the Etiology of Rickets, by Dr. Henry Ashby; Tubercle of the Choroid, by Dr. George Carpenter and Mr. Sydney Stephenson; Note on a Case of Syphilis Transmitted to the Third Generation, by Dr. D. M. Hutton; A Short Note on the Surgical Treatment of Meningitis in Children, by Mr. K. W. Monsarrat; Observations on Cirrhosis of the Liver and Endocarditis in Children, by Dr. C. J. Macalister; A Note on the Treatment of Endocarditis in Acute Rheumatism and Chorea, by Dr. Richard Caton (introduced); Removal of a Foreign Body from the Second Part of the Duodenum, by Mr. R. Clement Lucas; A Case of Pneumococcal Peritonitis, by Dr. John H. Bryant; and Bimanual Examination in Diagnosis of Abdominal Disease in Children, by Dr. James Carmichael.

THE NATURE AND TREATMENT OF TICS AND ALLIED DISORDERS.

IN the *Revue Neurologique* of April 30th Dr. H. Meige and Dr. E. Feindel publish an interesting and practical paper on the subject of tics and allied disorders of movement of nervous origin and deal briefly with the treatment of some varieties. The cases studied were 20 in number and had been under observation for some years. They agree with Charcot[1] that tics are automatic and irrepressible movements which are caricatures of natural movements. The present study is especially concerned with tics of the face and neck which may be accompanied sometimes by movements of the shoulders and respiratory sounds. Among the causes imitation of gestures holds a prominent place, especially in the case of young "tiquers." Tics may be thus learnt and by repetition they may become habitual. A case is given of a child with oculo-motor tics which were acquired by imitation of the mother. The mother was cured of the habit and the child ceased to exhibit the tics thereafter. Echolalia, coprolalia, and the utterance of bizarre and uncouth sounds (grunts and the like) are other instances. Twitching of the eyelids as if from irritation by a foreign body, and blinking as if in the presence of excessive light are common tics. The latter is sometimes due to feebleness of will and sometimes to contracture and may be corrected by "gymnastics" of the eyelids. Tics of the lips and tongue are frequent, singly or combined, as poutings, suctions, biting of the lips, and movements of the jaws. Some are accompanied by tics of smelling, respiration, and phonation. Squirming of the head and neck as if irritated by a tight collar is included by Brissaud under the title "mental torticollis." Treatment should be directed towards the discovery and removal of those whom the patient imitates and the elimination of any local irritation. Regulated exercise of the muscles affected may complete the cure.

[1] Leçons du Mardi, 1888-9 p. 464.

ACCIDENT TO PROFESSOR VIRCHOW.

WE learn with regret that Professor Virchow has met with an accident. While out walking he was blown by a very high wind against a tree and sustained an injury to the head. Happily, assistance was quickly obtained and the professor, who was unable to walk farther, was taken home in a carriage and the necessary surgical aid was rendered by his medical attendant. There is said to be no reason for any immediate anxiety, but it must not be forgotten that Professor Virchow is approaching his eightieth anniversary; moreover, he has been in indifferent health for some time past.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE: DEPARTURE OF THE FIFTH ANTI-MALARIA EXPEDITION TO WEST AFRICA.

Major Ronald Ross, F.R.S., late I.M.S., accompanied by Dr. Logan Taylor, recently assistant lecturer in pathology at the University of Glasgow, sailed from Liverpool on June 15th, by the steamship *Axim*, for the West Coast of Africa under the auspices of the Liverpool School of Tropical Medicine, with the object of attempting to exterminate the mosquito which is supposed to be the transmitter of malarial disease. This is the fifth expedition organised by Major Ross and the first occasion upon which Dr. Taylor has associated himself with the work. Major Ross proposes to stay in West Africa about six months, but the length of his sojourn will depend upon the progress made. It is quite probable that the Colonial Office, which is impressed with the importance of the investigations, may shortly send a representative to assist in the work. Mr. Chamberlain has shown his sympathy with the expedition by sending a message wishing it every success, and has also intimated that he has instructed the Governor of Sierra Leone and other Government officials to give to Major Ross and Dr. Taylor all the assistance in their power. A large contingent, representing the Liverpool School of Tropical Medicine, assembled at the landing-stage to give Major Ross and Dr. Taylor a hearty send-off, amongst whom were Mr. Alfred L. Jones (the chairman), Lady Ross (the mother of Major Ross), Mr. W. J. Davey (of the firm of Elder, Dempster, and Co.), Mr. William Adamson (the vice-chairman of the school), Professor Rubert Boyce, Dr. H. E. Annett (a member of previous expeditions), Mr. F. C. Danson (a former President of the Liverpool Chamber of Commerce), Mr. A. H. Milne (secretary of the school), Mr. T. H. Barlow (secretary of the Liverpool Chamber of Commerce), Mr. John Holt (vice-chairman of the West African Association), and many others. Mr. A. L. Jones said he was glad to say a few words of congratulation and appreciation of the objects of the expedition on behalf of the Liverpool ship-owners and merchants. The Liverpool School of Tropical Medicine had done good work in many ways, and whether the mosquito theory be accepted or not no one could deny the accuracy of science. From the fact that the theory was supported by Lord Lister and other eminent scientific authorities there was little doubt as to its ultimate success in protecting people from the difficulties and dangers of tropical climates. In thanking Major Ross and Dr. Taylor, on behalf of Liverpool and the country, Mr. Jones hoped that they would be successful in their researches. Mr. Jones also assured Major Ross and his colleague that if

anything was required in the way of funds Liverpool people would gladly provide it. Mr. Jones contended that if the West Coast of Africa was made as healthy as India it would be due to the energy of men like Major Ross, who laboured against the numerous difficulties encountered in tropical countries in the interests of science, trade, and humanity. As the tender left the *Arvia* hearty cheers were given by the distinguished assemblage for Major Ross and Dr. Taylor.

THE LATE MR. THOMAS BOND.

A POST MORTEM examination upon the body of the late Mr. Thomas Bond, whose death we recently chronicled, throws a light upon a tragedy that has much affected the medical profession. Microscopical examination of the prostate gland showed it to be not only enlarged but affected with scirrhus. This explains the agonising pain which the unfortunate patient experienced during the last three or four months of his life, pain which, in the end, upset the mental balance and terminated the valuable life of a highly respected *confrère*.

DEATH REGISTRATION IN SCOTLAND.

THE *Glasgow Herald* of June 8th contained an interesting letter from Dr. T. Colvin calling attention to the dangers arising out of the system of death registration in use in Scotland, which he stigmatises as chaotic. The reforms which he suggests will to some extent explain the present condition of things. He urges (1) that registrars should be empowered to refuse a burial order until the applicant produces a medical certificate of death signed by a duly qualified medical practitioner; and (2) that in all cases of sudden death where the deceased has not been examined by a medical man for a considerable time prior to his death there should be a coroner's inquest to detect and to prevent criminal practices of all kinds. In the case which prompted Dr. Colvin's letter a working man went to a registrar and told him that his child, having been attended for three days by Dr. Colvin for congestion of the lungs, was dead. A burial order was thereupon given to him by the registrar, but upon the registrar sending a medical certificate to Dr. Colvin with a request that he should sign it the following state of affairs came to light. Dr. Colvin had not attended the child, the child was not dead, and the fraud, for which the father was sentenced to 30 days' imprisonment, had apparently been perpetrated in order to obtain some privilege accorded by employers to bereaved parents. We can only say that a system under which such an incident as that related is possible, and may, as far as Dr. Colvin informs us, take place at any time, is one which urgently needs reform. The English system is far from perfect, and a new system inaugurated in Scotland and avoiding the defects of that prevailing in this country might prove to be an experiment which would be very useful to both countries.

MEDICAL EXCURSION TO FRENCH MINERAL WATER RESORTS.

THE details of this year's trip to the mineral water stations of France have now been arranged as follows. The rendezvous will be at Uriage, near Grenoble, at which place visitors must arrive on Saturday, August 31st, or at latest on the morning of the following day. The trip will occupy exactly 12 days and will terminate at Thonon, on the Lake of Geneva. In the interval the following places will be inspected, some of which, it will be observed, possess an interest which is general rather than scientific: Grande Chartreuse (Sept. 2nd); La Motte (Sept. 3rd); Allevard and Salins Moutiers (Sept. 4th); Pralognan (Sept. 5th); and Brides-les-Bains and Challes (Sept. 6th). On Sept. 7th Aix-les-Bains will be reached, and the day is to be spent in inspecting the city and its environs, Marlioz, Lake Bourget, and Hautecombe. The following day will be occupied with an excursion to other places in the neighbourhood. On Monday, Sept. 9th, the excursion will be continued as follows: Hauteville Sanatorium (Sept. 9th); Divonne (Sept. 10th); St. Gervais (Sept. 11th); Évian and Thonon (Sept. 12th). The price to be paid is 300 francs (£12 10*s.*), and this will include everything from the point of rendezvous to the moment of breaking up. Moreover, a railway ticket at half price can be obtained from any place in France (say Calais or Dieppe) to Uriage, and a similar ticket from Thonon back again. As in former years the tour will be under the direction of Professor Landouzy who will at each place give a short lecture on the composition of the waters, the balneological methods employed, and their therapeutic indications. Anyone intending to take part in the tour should communicate with Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, stating (1) his name and address, legibly written; (2) the point at which he will enter France; and (3) the day on which he will arrive at Uriage. A cheque for £12 10*s.* may be inclosed, or it may be sent separately to M. le Directeur du Crédit Lyonnais, Agence B. Compte, V.E.M., Place de la Bourse, Paris. These details must be attended to before August 15th, after which date no application will be considered. Intending participators are strongly advised to reduce their personal luggage for the tour to the barest necessaries. In no case will dress clothes be required. Any further information may be obtained from Dr. Leonard Williams, 8, York-street, Portman-square, W.

ONE EYE AT A TIME.

THE *Optician*, a widely circulated and well-conducted journal, contains a paragraph in the number for June 14th which is, in our opinion, misleading. The statement is that a man on his travels, wearing a patch on one eye, is asked the reason of this proceeding. His reply is that he considers it to be advantageous to rest one eye; that as we do not use the two hands simultaneously neither should we use the two eyes, so that whilst one is working the other may be allowed to rest. Unfortunately for this view the analogy between the arms and their movements and the motions of the eye is very imperfect. The nervo-muscular apparatus of the eyes does not correspond with that of the two arms. The muscles of the arms can be taught to work together or in opposition to one another, but no amount of practice will enable a man to move simultaneously the two eyes in opposite directions, either horizontally or vertically. The construction of the nerve centres is such that the eyes must roll in the same direction. By closing the lids of one eye positive harm may be done, for friction between the globe and the lid of the closed eye will only serve to impede its movements and interfere with the due coördination of the muscle. This effect is not unfrequently seen when one eye has for any reason been kept closed by a bandage, double vision often lasting for some time. To close one eye for the purpose of resting it seems about as sensible as it would be to tie up one leg and hop with the other on alternate days, or to plug one ear or nostril and rely upon the other for audition or for smell.

A BUST of Armauer Hansen will be unveiled at the Lunggaards Hospital in Bergen on the forenoon of August 10th. Professor Virchow is issuing invitations in the name of the committee to prominent medical men of different countries to take part in this ceremony in order that it may prove an occasion of international professional

fellow-feeling. Dr. Sandberg of Bergen is receiving the names of those invited who intend to be present.

AT the request of His Majesty the King His Royal Highness the Duke of Cambridge has undertaken to fill the office of President of the British Congress on Tuberculosis and will open the Congress at St. James's Hall, Piccadilly, W., on Monday, July 22nd, at 3 P.M.

HER MAJESTY QUEEN ALEXANDRA, who as Princess of Wales was for 30 years patroness of the Hospital for Diseases of the Skin, Blackfriars, S.E., has graciously consented to continue her Royal Patronage.

THE Master and Wardens of the Society of Apothecaries have issued invitations for a conversazione to be held at Apothecaries' Hall, Blackfriars, on Wednesday next, June 26th, from 8 to 11 P.M.

THE Past and Present West London Hospital dinner will be held at the Empire Rooms of the Trocadéro Restaurant on Tuesday next, June 25th, at 7.30 P.M.

ARMY MEDICAL DEPARTMENT REPORT FOR 1899.

I.

IT is unavoidable, we presume, that a considerable interval should ensue between the occurrence of the facts and medical transactions to which these reports relate and their publication. The information has to be drawn up and collected from the various military stations and commands and the various statistical returns have also to be revised and corrected before they can be embodied and issued in the form of a report which, being an official publication, has to be accurate. But it cannot be doubted that in the times in which we are living this has the effect of robbing such reports of much of the interest which they would otherwise possess. To the ordinary reader the perusal of an official history of past events and the examination of statistical tables and their results are not at the best of times an exhilarating occupation and they are only too apt to be regarded as a somewhat stale and unprofitable one. The consequence is that reports on the compilation of which great pains and labour have been bestowed often receive but scant notice, especially in the columns of current journalism. In the case of the Army Medical Service, moreover, the report intended for the information of Parliament and the public is usually issued first and separately, to be speedily followed by the more enlarged and expanded report containing an appendix embodying the special and more professional contributions of medical officers. It is to the latter, perhaps, that the main interest of the volume attaches, at least as far as the medical profession is concerned.

The reader will naturally turn first of all to the subject of the war in South Africa. But as regards South Africa we are told that no annual returns of sick are, for the present, forthcoming, and complete statistics for comparative purposes cannot be prepared until after the military operations have been brought to a close. The prevailing diseases previously to the outbreak of hostilities were, however, enteric fever and other fevers, dysentery, digestive disorders, venereal affections, and rheumatism.

The first pages of the report for 1899 give an excellent summary statement of the health of the troops at home and abroad, from which we glean the following:—

The average strength of the European troops serving at home and abroad, exclusive of South Africa, in 1899 was 201,004 warrant officers, non-commissioned officers and men. The total number of admissions to hospital was 173 204, and the total deaths were 1594. The admissions represent a ratio of 861·7 per 1000 of strength as above; the deaths one of 10·82 per 1000, on a strength of 204,720, which includes detached men not shown in the returns received. The statistics of the troops serving in the United Kingdom show that the admission and mortality rates were both higher than in 1898, but lower than the average rates for the preceding 10 years. The admission rate for eruptive fevers was practically the same as in the previous year. One case of small-pox occurred. Influenza was again prevalent, but did not appear in an epidemic form. Enteric fever showed a decline in the admission rate as compared with the previous year and the average rate, but the mortality rate was somewhat higher in both comparisons. Dublin with eight cases was again the station most affected. Of the cases of heat-stroke and sunstroke, 29 occurred at Aldershot, and 23 at the Curragh while manœuvres were being held. Eight cases of lightning-stroke occurred in a regiment on the march from Limerick to Thurles to participate in the Irish manœuvres, and practically the whole battalion is stated to have suffered from the effects of lightning. At Gibraltar the admission and constantly-sick rates were lower, but the death-rate was somewhat higher than in 1898. The admission and mortality rates for enteric fever were less than in the previous year. In the Malta command, which includes Crete, the health of the troops compared favourably with the previous year. In Canada the health of the troops was good, there being a decrease both in the admission rate and in the ratio of constant inefficiency as compared with 1898. The mortality rate was, however, somewhat higher. In Bermuda it is noted that the decline of enteric fever commented upon in the previous year's report was again maintained throughout 1899. The admission rate for venereal diseases, which is always extremely low in this command, had still further decreased.

At Barbadoes the health of the troops was good, but the ratios of sickness were higher than in 1898, though below the average rates. There was an outbreak of beriberi during the year, the origin of which could not be traced to any special cause, but it is stated that the disease is frequently introduced into the island from the shipping. At Jamaica it is noted that the health of the troops, although good, was not quite equal to that in the previous year in consequence of the prevalence of malarial fevers and venereal diseases. In Mauritius the health of the troops was above the average. Plague was prevalent throughout the island, and was particularly severe at Port Louis, but owing to the strict military measures adopted to prevent the disease from spreading the troops were particularly free from attack, only one case occurring. There was a marked decline in the prevalence of malarial fevers. In Ceylon there was a marked increase in the admissions for malarial fevers, but this is believed to be due more to the importation of troops who had been affected with malaria elsewhere than to local causes. In the Straits Settlements the health of the troops was most satisfactory, the marked decrease in the admission rate for venereal diseases being especially noticeable, which decrease is attributed in a great measure to the increased supervision exercised by the municipal authorities over the bazaars, brothels, &c. There was also a considerable decrease in the number of admissions for malarial fevers. In China the ratios of sickness were higher than in 1898, chiefly due to the increase of admissions for malarial fevers. This is stated to be attributable to some extent to the arrival of a regiment which suffered severely while in Crete during the previous summer. Plague was again epidemic among the civil population, but the troops enjoyed comparative immunity, only two admissions and one death occurring. There was a further decline in the admission rate for venereal diseases. A local ordinance having for its object the prevention of the propagation of venereal disease came into operation in November and is said to be working satisfactorily. In India there was a decline in the admission, death, invaliding, and constantly-sick rates. The chief causes of sickness were, as usual, malarial fevers and venereal diseases, which together caused 48·6 per cent. of the admissions for all causes. Malarial fevers, enteric fever, venereal diseases, and dysentery were all less prevalent than in 1898, and there was only one admission for cholera. Notwithstanding the appearance of plague in epidemic form in several localities among the natives only a few cases are recorded among the troops. In Egypt the general health of the troops was very good, the admission, mortality, and constantly-sick rates being considerably lower than in 1898, and also than the decennial average rates. Plague occurred at Alexandria during the year

among the civil population, but owing to the strict precautionary measures adopted no case appeared among the troops. Khartoum was in 1899 used as a station for the first time by British troops.

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR 1899-1900.

II.[1]

MR. W. H. POWER attaches considerable importance to the auxiliary scientific investigations which were carried out during the year by the assistant medical officers of the Local Government Board. The first of these to which he calls attention (Appendix B, No. 1) was an experimental inquiry into the condition which has received the name of "pseudo-tuberculosis," a word which, as Mr. Power points out, was formerly loosely used to include a number of morbid conditions which had nothing intrinsically in common. Of late the term has been employed in a restricted sense to denote a single disease which is pathologically allied to tuberculosis and which affects some of the lower animals, which is transmissible from animal to animal, and which is caused by a bacillus which is not the one that produces tuberculosis. Dr. Klein describes the clinical history and the post-mortem appearances of the disease. Guinea-pigs, rabbits, and mice were the chief animals used in the experiments and in these animals it was found that the disease ran a more rapid course than tuberculosis. The pathological similarity between tuberculosis and pseudo-tuberculosis was seen to be very close, but giant cells were usually absent from the necrosed tissue in the latter disease. Dr. Klein's paper is illustrated by coloured plates and by a large number of micro-photographs. The plates illustrate the morbid naked-eye appearance of the liver and spleen permeated by small white nodules and the first plate would readily have passed in the days of our ignorance for a good representation of organs affected by tuberculous disease. The second and third plates show some of the abdominal organs of a guinea-pig similarly affected, and the fourth plate the appearance produced by the growth of the pseudo-tuberculous bacillus on a potato. There are altogether no fewer than 45 illustrative plates. The pathological and etiological knowledge of the disease which has now been acquired will, Mr. Power believes, be of use in facilitating the detection of the disease and in confirming the diagnosis of tubercle in rodents. Dr. Klein gives exact measurements of the bacillus which produced the disease. He has found that its distribution is somewhat wide, for he has detected it in samples of the unfiltered water of the Thames and Lee, in sewage and in sewage effluents, in milk purchased in London shops, and in milk delivered direct from dairy farms before its arrival at the shops. Dr. Klein does not claim finality for the results of all his numerous experiments; of some he says only that they are highly suggestive and that they deserve repetition.

The second report published in Appendix B, which deals with the bacteriology of scarlet fever, gives the result of an elaborate investigation of the subject by Dr. M. H. Gordon. Mr. Power in his summary of the results of this work recalls the fact that Dr. Klein studied the question as long ago as the year 1885 in connexion with an epidemic which it was suspected had been produced by contaminated milk. At a later period Dr. Klein and Dr. Gordon made an inquiry into what have been termed "return cases" of scarlet fever. The results of their investigations convinced them that the disease was due to an organism which they named "streptococcus scarlatinæ" and they believed that the infectiveness of the disease "was judged to be parallel with the presence or with the persistence in the patient's throat" of this micro-organism. The controversy which was raised on the bacteriology of scarlet fever will not have been forgotten. Its general result, Mr. Power says, was that "the conclusions of the Board's investigations were not generally accepted." The fact that streptococci are "morphologically and biologically unstable" makes the differentiation of them "largely a matter of personal equation." In these circumstances it was thought well to commission Dr. Gordon to make a general study of streptococci and to find out how differing conditions altered their biological character. This laborious investigation occupied Dr. Gordon for over two years, and the results of his work certainly deserve careful study. The general conclusions at which he arrived are as follows. 1. Streptococcus scarlatinæ or conglomeratus is a special pathogenic micro-organism distinct from streptococcus pyogenes on the one hand, and from bacillus diphtheriæ on the other. 2. It occurs in the mucous secretion on the surface of the tonsil and fauces in scarlet fever and may persist there in some cases up to a period considerably after the date of attack. 3. It has not been found in four inflamed non-scarlatinal throats examined for it, but on the contrary other virulent streptococci were present in these cases. 4. It may be present in the nasal discharge of scarlet fever. It has not as yet, however, been detected in the aural discharge of that disease. 5. It penetrates the system and can be obtained in pure culture from a serous effusion occurring as a complication in the course of scarlet fever. 6. It may be present in the blood and tissues in fatal cases of scarlet fever and may not infrequently be obtained in pure culture from these sources. 7. The characters of streptococcus scarlatinæ, as isolated from the tonsil of a mild but typical case of scarlet fever, are apt to undergo modification in the tissues of a mouse, and similar modification is found in the case of streptococci obtained from the tissues of a human being in a fatal case. In each instance this modification usually comprises increase of virulence accompanied by diminution of those morphological and cultural characteristics that distinguish the streptococcus scarlatinæ from the streptococcus pyogenes, though close examination shows that sufficient differences exist still to permit identification. The results of Dr. Gordon's observations and experiments, he thinks, "strongly support the view that streptococcus scarlatinæ is the specialised and essential agent of the specific infection known as scarlet fever." In a footnote he adds that "how far streptococcus scarlatinæ merits the epithet specific is a matter for future investigation to decide. The term is for the present better avoided."

Of the other reports contained in Appendix B, three are by Dr. A. C. Houston, two by Dr. Klein, and one, containing a preliminary account of the results on bacterioscopic analyses of different cereals and food stuffs, is the result of the researches of Dr. Klein and Dr. Houston. The last report (Appendix 10) records the observations of Mr. H. S. Fremlin on the bacteria found in calf lymph during the process of glycerination. In the order of the frequency of their occurrence it was found that the staphylococcus pyogenes aureus headed the list (500), the staphylococcus pyogenes albus came second, and an unnamed bacillus was third. The effects of glycerine in the various organisms are described in detail and Mr. Fremlin is continuing his researches on the bacteriology of calf lymph, a subject of no small importance in these days of the conscientious objector to vaccination.

Dr. Houston's report on the value of the examination of water for streptococci and staphylococci with a view to the detection of its recent contamination with animal organic matter is of interest to all those who are concerned in the quality of the water supplied to towns from sources which are open to such pollution. The report now published (Appendix B, No. 3) describes Dr. Houston's more recent experiments in a matter which has previously engaged his attention. The general deductions which he draws as to the information really required in the bacteriological analysis of water are as follows. 1. It is a matter of the first importance to have a thorough knowledge of the kind of bacteria which are entitled to be considered "essentially of animal outcome." 2. Accurate knowledge is desirable as to the microbes found in water which are related to morbid processes in man. 3. It is desirable to distinguish between bacterial tests which indicate quite recent pollution from those which indicate less recent pollution, and again to distinguish the latter from those tests which indicate pollution of remote origin (for recent pollution is presumably especially dangerous and pollution of remote date indicates potential rather than actual danger). 4. The presence of the bacillus coli whether in the soil or in water implies recent pollution. For an account of the experiments the article itself must be referred to, but it may be mentioned in passing that the water of the river Brent and that of the Regent's Park Canal received attention. A note appended to Dr. Houston's report refers to the value of a method of

[1] No. I. was published in THE LANCET of June 15th, 1901, p. 1705.

research which it may be hoped will receive the attention it deserves as a rough test for indicating the extent to which biological purification has been carried in the case of sewage effluents and of polluted rivers.

Dr. Houston reports also on the chemical and bacteriological examinations of the washings of soils with reference to the amount and nature of the organic matter and the number and character of the bacteria contained in them (Appendix A, No. 4). This article gives an account of further researches on a subject dealt with in two previous Supplementary Reports of the Medical Officer of the Local Government Board (Appendix B, No. 5, 1898-99, and Appendix B, No. 2, 1897-98). The more recent work consisted of chemical and bacteriological examinations of the washings of soils. The soils, amongst others, which were examined were taken from sewage farms, virgin soil, and the mud of the Thames and of the Brent. The chemical methods adopted in the investigation were those used for the determination of the amount present of free ammonia, albuminoid ammonia, and for the estimation of the amount of oxygen absorbed from permanganate. Biologically the soil waters were examined for the determination of the total number of bacteria, for the spores of aerobic bacteria, for the bacillus coli communis, for the bacillus enteritidis sporogenes (of Klein), and for streptococci.

The conclusions at which Dr. Houston arrives at the end of his three years' inquiry are that soils containing a large proportion of vegetable organic matter, a small proportion of inorganic substances, and little or no animal matter often contain more albuminoid ammonia and absorb more oxygen from organic matter than do soils which contain a large proportion of inorganic substances, and a small proportion of vegetable organic matter, but which are saturated with animal matters of excremental origin. "Washings" from soils enormously and dangerously polluted might contaminate water. This pollution might be chemically inappreciable, yet a like contamination would yield to bacterial examination unequivocal proof of its objectionable origin. The chemical distinction between animal and vegetable organic matter is in great part conjectural in character and fails to define the relative proportions of the different kinds of organic matter present in a substance. Virgin soils do not contain spores of the bacillus enteritidis sporogenes nor of the bacillus coli, nor do they contain streptococci in large numbers. Soils polluted with animal organic matter contain spores of the bacillus enteritidis sporogenes in great quantity. They contain also bacillus coli and streptococci if the contamination be of recent date. The total number of bacteria found in virgin soils is much smaller than that found in polluted soils. The recent derivation of a water from the "washings" of soils can readily be detected by the presence in it of soil microbes and by the large number of spores of aerobic bacteria which it contains.

The inference which Dr. Houston suggests should be drawn from these facts is "that chemistry cannot always be relied on to detect in a water-supply the presence of 'flood water,' much less of 'flood water' of objectionable or dangerous sort, but that bacteriology is capable of appreciating admixture of 'flood water' in comparatively small amount. The presence or absence of spores of the bacillus enteritidis sporogenes further enables the bacteriologist to draw a distinction between 'flood water' derived from soils at one time or another polluted with excremental matters and that which has come from soils free from present or past contamination of objectionable sort. Lastly, the presence or absence of the bacillus coli (or closely allied microbes) and of streptococci allows the bacteriologist to say whether there is or is not trustworthy evidence that the 'flood water' has been derived from soils recently polluted with matters of animal outcome."

Dr. Sidney Martin gives a further report on the growth of the typhoid bacillus in soil (Appendix B, 5). The paper has the distinction of being concise, clear, and well written. The experiments conducted by Dr. Martin, as Mr. Power points out, mark a distinct advance in our knowledge of the subject. The results arrived at are the following. 1. Certain cultivated soils, especially garden soils, when sterilised are favourable to the vitality and growth of the typhoid bacillus. Under comparable conditions other virgin or uncultivated soils do not support the bacillus, which rapidly dies. A previously virgin soil which had recently come under grass was found when sterilised to support the life of the bacillus for a certain period but not nearly so long as the more definitely cultivated garden soils. 2. When the typhoid bacillus is added to unsterilised soils, kept very moist and at a temperature of from about 19° to 37° C. it has not been possible to recover it from the soil even after a short period. If, however, the soil be kept in a drier condition and at a low temperature (from 2° to 12° C.) the bacillus can be regained after a certain interval which in these experiments did not exceed 12 days. After this it appeared to die out. 3. The reason of the disappearance of the typhoid bacillus from the unsterilised soils appears to be the antagonism of some of the soil micro-organisms to its growth, and there is some evidence to show that, under the conditions of experiment, the disappearance of the bacillus has taken place *pari passu* with an increase in the number of the putrefactive bacteria. 4. As far as is known the typhoid bacillus has no spores, so that if it once dies it cannot be expected to reappear, unless a fresh inoculation occurs.

The next report is by Dr. Houston and gives an account of a chemical and bacteriological examination of soil obtained from the "fever" and "non-fever" areas at Chichester (Appendix B, 6). It will be more convenient to refer to this paper in connexion with the very able and exhaustive report of Dr. T. Thomson and Colonel Marsh on the prevalence of enteric fever in the city of Chichester.

Dr. Klein's investigation on cockles as the distributing agents of infectious disease (Appendix B, 7) showed that cockles are capable of taking into their interior the microbes of sewage. He found also that raw cockles bought in their shells from a street hawker contained specimens of the bacillus coli and of virulent bacillus enteritidis sporogenes. The report is a preliminary note on a very important inquiry, one part of which is to determine the behaviour of the typhoid bacillus in cockles kept in water polluted with the "material of the typhoid fever."

Dr. Klein's report on the behaviour of certain pathogenic microbes in milk, cream, and cheese (Appendix B, 8) shows that at certain temperatures the tubercle bacillus grows in milk, in cream, and in cheese; that the typhoid bacillus grows in milk and in cream, but not in cheese; that the diphtheria bacillus grows in milk, but not in cream or in cheese; and that the streptococcus scarlatinæ grows well in milk and does not grow well in cream or in cheese. Some interesting points in regard to the growth of the tubercle bacillus were discovered in the course of the experiments.

Dr. Klein and Dr. Houston give a preliminary account of the results of a bacteriological analysis of different cereals and food stuffs. Wheat, oats, rice, and flour from various sources were examined (Appendix B, 9). A number of micro-organisms were discovered, but with the exception of that ubiquitous organism the bacillus enteriditis sporogenes it is comforting to know that they were non-pathogenic.

THE ANNUAL DINNER OF THE ROYAL ARMY MEDICAL CORPS.

THE annual dinner of the Royal Army Medical Corps was held at the Whitehall Rooms of the Hôtel Métropole on Monday, June 17th. Considering the number of officers who are absent on service in South Africa there was a very good attendance, though, of course, the senior members of the service predominated. Surgeon-General J. Jameson, C.B., late Director-General, presided and gave the Royal toasts which were loyally and cordially honoured. He then proposed "The Guests" and alluded to the presence of the civil consulting surgeons who had rendered them such excellent aid in South Africa, pointing out that in affording help in a time of strain to their country they had not only temporarily to break their home ties but also to run many of the risks of war—in fact, one of them, the late lamented Sir W. Stokes, met his death out there. He then referred to Sir W. Mac Cormac ("a tower of strength"), Sir F. Treves, Mr. Makins, Professor Chiene, Mr. Watson Cheyne, Mr. Lenthall Cheatle, and others. The speaker mentioned the fact that lately he had seen two German attachés who were in South Africa during the war, and on asking them if they could suggest any improvements with regard to our medical service received the reply, "We have *nothing* to suggest"; he also referred to a gentleman from St. Petersburg who said that

they greatly admired the medical service and that was the only English service which they did admire. In submitting the toast of "The Guests" he emphasised the great value of the moral support which they had received from the civil consulting surgeons and assured them that the Royal Army Medical Corps cordially congratulated them on the honours which they had so worthily won.

The toast was responded to by Sir WILLIAM MAC CORMAC, who bore testimony to the excellent work done in South Africa by the Royal Army Medical Corps, saying that from a considerable experience in other wars as well as in the present one he had no hesitation in saying that the work done by the Army Medical Service in South Africa was as good as, if not even better than, that which had distinguished them in any previous campaign or any similar work in other countries. At the present moment China offered an object lesson of this, for there our Medical Service was admittedly superior to that of our allies. Referring to the difficulties caused by the undermanning of the Royal Army Medical Corps he said that revolutionary changes were often fraught with evil, and in the present instance did not seem to be required. The all essential matter was to procure a sufficiency of men to fill the vacancies in the corps. What was chiefly needed on the part of the authorities and the outside world generally was a much larger measure of sympathy and appreciation for good work well done and without regard for self. The large number of civilian surgeons, some 700 in number, who had served in South Africa would help in this. They had witnessed the devotion to duty of the Army Medical Corps, which would serve to promote the solidarity between the two branches of the profession.

Sir FREDERICK TREVES said that in replying to this toast he had to invert the usual order and refer to the hosts rather than to the guests. He bore tribute to the kindness which had been experienced by the consulting surgeons at the hands of every member of the Royal Army Medical Corps. He then referred to the criticism which had been directed against the Army Medical Service and described it as being in many particulars unfair and un-English, and said that Sir William MacCormac and he had taken the earliest opportunity on their return to England of expressing their high opinion of the services of the Royal Army Medical Corps. He referred to the services of Surgeon-General Jameson at headquarters at home and said that he had every single detail of the department at his finger-tips. In South Africa itself he was surprised to find how wonderfully the work was done, seeing that surgery in war was attended with all sorts of difficulties and not to be conducted as it was at home in a hospital. In passing he mentioned the pleasure it was to civil surgeons to serve under Colonel Stevenson. He referred to the great abilities of Sir Thomas Gallwey in Natal as an organiser and remarked that he had become an expert in the art of commandeering. Lieutenant-Colonel Babtie, V.C., too, was noticeable for his powers of organisation, whilst the splendid deed performed by him at Colenso would cause his name to live in history. He mentioned the services at Durban of Major MacCormack and at Pietermaritzburg of Major Dodd. In conclusion, he observed that to obtain a proper estimate of the work of the Royal Army Medical Corps the opinions of two classes should be sought—namely, of the civil surgeons and of the sick and the wounded. He could only say that any corps would be proud of that testimony—testimony borne, be it remarked, by the people who really knew.

Professor CHIENE endorsed all that had been said by Sir William MacCormac and Sir Frederick Treves and said that the work that he had seen done as he passed through Wynberg, Kimberley, Mafeking, Johannesburg, and Pretoria was work equal to that done in any civil hospital, and as to the criticisms which had been directed against the medical service all that he could say was that he simply did not understand it. The work done by the Royal Army Medical Corps was work that no civil surgeon could be ashamed of. "We do not believe a word said against you," remarked Professor Chiene. He then proceeded to allude to the enormous difficulties that beset them and the way in which they had been met, and added that the work out there had been well done because Surgeon-General Jameson was at the head of affairs at home. He had come that day from Edinburgh to be present at the dinner in order to support Surgeon-General Jameson and to indicate on behalf of the profession in Scotland their opinion of his work.

Surgeon-General O'DWYER then proposed the health of Surgeon-General Jameson, a toast which was most warmly received and greeted with musical honours.

Surgeon-General JAMESON, in reply, thanked the officers and guests for the cordial way in which they had received him. He referred to the difficulties of the campaign and bore tribute to the excellent assistance which he had received from his colleagues at headquarters. "Never," he said, "had a Director-General been better served." As to the future he had little fear; they would work out their own salvation. The alterations that were needed could be counted on a man's fingers; but one thing was indispensable: the *personnel* must be increased and to that end the service must be rendered attractive. There was the whole pith of the matter. It was also desirable that more sympathy should be extended to them from outside. Although he had no longer official connexion with the Army Medical Service he could assure them that his interest in the department would never cease, and he felt confident that the cloud which had so suddenly arisen and was now hanging over them would as suddenly disappear.

During the evening the band of the Royal Army Medical Corps played an excellent selection of music.

THE ANNUAL DINNER OF THE INDIAN MEDICAL SERVICE.

THE annual dinner of the Indian Medical Service was held at Princes Restaurant, Piccadilly, London, W., on June 13th, Surgeon-General R. Harvey, C.B., D.S.O., Director-General of the Service, being in the chair. There was a good attendance which doubtless would have been even better had it not been for the trying circumstances through which India has lately been passing—plague, famine, and the wars in China and South Africa having made heavy claims upon the services of Indian medical officers.

The usual loyal toasts having been given by the Chairman and duly honoured, "The Sister Services" was proposed by Surgeon-General Sir Joseph Fayrer, who alluded to the good work that had been done by the services in the South African war and quoted the report of the Royal Commissioners in support of his statements.

Sir Henry F. Norbury, Director-General of the Royal Navy Medical Service, in replying, said that up to the present time there had been at the several examinations a sufficiency of competent candidates, and no gentleman had received a commission as a medical officer in the Royal Navy who had not been considered quite professionally competent by the board of examiners. The war in China had, as far as the medical department of the navy was concerned, at one time been beset with much greater difficulties than it had experienced in South Africa, and in China the way in which the arduous medical work had been carried out had been most favourably reported on by Vice-Admiral Sir E. Seymour, G.C.B., the Commander-in-Chief on that station. Surgeon-General A. F. Preston, A.M.S., also briefly acknowledged the toast.

"The Indian Medical Service" was then proposed by Surgeon-General Harvey, who said that it would be manifestly improper for him to discuss the various schemes for the improvement of the medical services that were at once to be, or had been, put forward. These schemes would receive the most careful consideration from the Government of India, and he believed that the Service was patriotic enough to accept any changes which might be considered necessary in the real interests of the State. He did not think, however, that any change disastrous to the Service could possibly be in the interests of the State, and he therefore considered that the Service might regard whatever proposals might be put forward with equanimity. As these subjects were tabooed he would say a few words as to certain misconceptions which seemed to exist as to the conditions in the Service itself and the relations of the Government of India to the Service. There was said to be much discontent in the Service, but this was mainly due to the one great grievance—the constant interference with leave. Steps had been taken to remedy this and he thought that most of the other grievances were more or less imaginary. A complaint had recently appeared in a medical journal that the pay on entry to the Service was

286 rupees. A statement of this kind, if true, would tend to make good men hesitate to enter the Service, and he could not conceive what good the author of it expected to gain by appealing to the papers instead of representing the matter to his departmental superior. The statement, however, was the reverse of true, for the minimum was raised from 286 to 317 rupees more than 16 years ago, and further raised to 350 rupees four years ago, so that with this and exchange compensation allowance the pay of the junior officers was some 30 per cent. higher than the amount stated. Another grievance recently put forward was that the pensions of civilians was much larger than those of the Service, but the inventor of this one was probably not aware that every civilian contributed more than half of his own pension, while the medical pensions were given by the State without any contribution from the officers concerned. He had recently been asked whether it was true that medical officers had to act as butlers to their brother officers. This was a very coarse way of expressing the fact that regimental medical officers were frequently asked to be managers of the mess. In all regiments some officer had to do this, and he was proud to say that he had had the honour to be "butler" to the Central India Horse during the greater part of the time he had belonged to the regiment. He had seen a recent complaint that the work of a civil station and the responsibility of a jail were too heavy and exposed a man to risk of having to answer for the misdeeds of his subordinates, but he was glad to think that what most men wanted was the opportunity for hard work and responsibility, and he knew that if they did their work properly subordinate officials would have no chance of involving them in loss. One other point he would like to allude to. Two years ago their secretary had stated that he knew of no instance of a man receiving any proper acknowledgment for distinguished work in the ordinary lines of the profession. That was, unfortunately, true, speaking as he was of purely surgical and medical work, but the six appointments of Honorary Physician and Surgeon to the King were intended to reward such. A gentleman in a medical journal had, however, given a new complexion to the complaint by saying that with the single exception of Dr. D. D. Cunningham no man had ever been rewarded for good professional work. This statement also would tend to deter good men from entering a service where there were no rewards for merit, but in this extended sense it happened to be entirely untrue, since representatives of every other branch of the profession had from time to time been decorated for good work in botany, physiology, hygiene, obstetrics, and gynæcology, medical jurisprudence, college and jail, plague, and famine, work, while a distinguished chemist's name was before the Government for recognition when he unfortunately died, and Mr. Haffkine, who, though not a member of, was in intimate relation with, the Service, had received a C.I.E. for bacteriological work in connexion with cholera and plague. The Government of India was frequently accused of indifference to the interests of the Service and particularly of neglect to further medical research. He had recently read how the perverse imbecility of an administrative pedant had thwarted Major Ronald Ross in his most valuable and distinguished work by taking him away from the scene of his labours and setting him to routine work which anyone else could have done as well. The truth was exactly the other way. The Government of India had taken Major Ross from routine work, put him on special duty to investigate the malaria problem, given him 200 rupees a month additional pay when so employed, and had thus given him the opportunity and the leisure without which his valuable discoveries might not have been completed. They were associating one of their own officers with the envoys sent to India by the Royal Society to investigate Indian fevers, and he hoped it might be found possible to send an officer with Major Ross on his new expedition to Africa. The Government of India had given an allowance which had enabled the committee of which he had the honour to be President to start the Pasteur Institute of India which was doing admirable work. They had started a new alienist department and sanctioned the scheme for research laboratories. The central laboratory would be started at once and the provincial laboratories would follow as funds became available. He thought, therefore, that he had shown that the Government of India was alive to its responsibilities and that the Service held out as good opportunities as ever to good men. He knew of no service in the world which gave so many opportunities of doing good. It gave to its most unfortunate member a reasonable subsistence and a fair pension, while to many of its members it gave good, and to some very valuable, prizes, with the chance of honours and distinctions. He believed that the Service would continue to deserve well of the country in the future as in the past, and he invited them to drink to this most desirable consummation.

"The Guests" was proposed by Dr. W. S. Playfair, and responded to by Dr. F. W. Pavy, who referred humorously to the physiology of dining.

Lieutenant-Colonel Lyon then rose and said that they must not forget to thank Mr. Freyer, who had acted as secretary of the dinner and to whom, indeed, was due the credit for the initiation of the annual dinner of the Indian Medical Service.

Mr. Freyer, in replying, laid stress on what, in his opinion, was a great grievance—namely, that honours were not given as they should be for good work done purely in surgery and medicine which lay at the very foundation of the work of the Service.

During the course of the toast-list Surgeon-General Sir Joseph Fayrer mentioned that a history of the Indian Medical Service was being written by Surgeon-General Beatson.

In the intervals between the toasts the pleasure of the evening was enhanced by Mr. Percy French who sang amusing Irish songs and drew in chalks topsy-turvy pictures which would, we imagine, delight the author of the "Bab Ballads."

The following is a list of the officers and guests present:—*Surgeon-Generals:* W. B. Beatson, Sir J. Fayrer, Bart., K.C.S.I., F.R.S., W. R. Rice, C.S.I., and C. Sibthorp, C.B. *Colonels:* W. E. Cates, H. Cayley, D. E. Hughes, J. C. Penny, W. H. Roberts, and D. C. O'C. Raye. *Lieutenant-Colonels:* O. Baker, S. H. Browne, C.I.E., A. Crombie, E. F. H. Dobson, P. J. Freyer, T. J. Greany, P. de H. Haig, D. F. Keegan, Sir George King, K.C.I.E., Sir A. S. Lethbridge, K.C.S.I., I. B. Lyon, C.I.E., R. Macrea, H. McCalman, G. Massy, R. D. Murray, E. Palmer, J. Parker, W. A. Simmonds, J. F. Tuohy, R. R. H. Whitwell, and A. H. Williams. *Majors:* J. W. Caldwell, E. R. W. C. Carroll, T. E. Dyson, F. J. Drury, S. Hassan, and C. T. Hudson. *Captains:* S. Dallas, G. G. Giffard, P. P. Kilkelly, A. E. H. Pinch, and E. E. Waters; and Dr. W. S. Playfair.

Guests: Sir H. F. Norbury, K.C.B., Surgeon-General A. F. Preston, A.M.S., Dr. F. W. Pavy, F.R.S., President of the Royal Medical and Chirurgical Society, Mr. John H. Morgan, F.R.C.S., President of the Medical Society of London, Dr. J. E. Squire, and Mr. Thomas Wakley, jun.

MIDLAND MEDICAL UNION.

A MEETING of the Nottingham branch of the above Union was held at the Masonic Hall, Nottingham, on June 12th, Mr. G. B. WRAY being in the chair.

Mr. C. J. PALMER (Mansfield) reported on the work done in his district. 1. An ironworks club which had proposed to alter its form of payments so that an average pay of from 18*s.* to 20*s.* per accident should be reduced to 15*s.* had been told that its suggestion was not agreeable to the surgeons (18 or 20 in number). The club thereupon gave way and continued the old rate. 2. Most of the friendly societies in the neighbourhood were paying 4*s.* per member and were now being approached with a view to having that fee raised. 3. The guinea midwifery fee was generally adopted except in one or two colliery villages. In the case of Dr. W. C. Rainsbury (Teversall), who had received notice after adopting this fee, another surgeon had been engaged, but there were strong reasons for hoping that Dr. Rainsbury would eventually be reinstated on his own terms.

Dr. E. H. HOUFTON (Shirebrook) said that a similar condition of things was to be reported from Chesterfield. Most of the clubs had been raised to 4*s.* and arrangements were in progress to meet delegates from the friendly societies with a view to a further rise. Dr. Houfton pointed out that one or two of the men who still refused to adopt the guinea midwifery fee (and so stood in the way of others) were men in good position who perhaps charged full fees themselves; but having very large practices they allowed their assistants to take 15*s.* and even 10*s.* 6*d.* Such men could better afford

to risk losing a few shillings than many of those who had taken the risk and gained the point.

The following motions (previously passed at Mansfield and Chesterfield) were put from the chair, seconded by Dr. J. H. THOMPSON (Nottingham), and carried unanimously:—

(a) That in the event of any medical man receiving notice from any club through asking for an increase in fee no other practitioner should take the same even if offered to him.

(b) That no member of this Union shall assist by consultation or otherwise any practitioner in the counties of Nottingham or Derby who is declared by the Midland Medical Union to be opposed to the objects of the Union.

Dr. W. HUNTER (Nottingham) congratulated the Mansfield and Chesterfield branches on what had been done. It showed that something could be done if men stood together. He thought that further efforts should be made to interest the profession in Nottingham as there were plenty of things to discuss and many matters that could be improved upon by concerted action.

The question of an indemnity fund was next raised. At meetings held recently at Chesterfield and Mansfield it was unanimously resolved that a fund should be commenced for the purpose of fighting to a conclusion the question of the increase in remuneration for contract work, &c., and more particularly for the purpose of aiding financially any of the members who might need such help in consequence of their loyally abiding by the Union. It was further resolved that subscription to this fund should not be compulsory, but that in the case of a member applying to be indemnified from this fund who was not a subscriber to it the granting of any money should be left to the president and vice-president, who should decide whether there were special circumstances entitling such members to relief. It was further resolved that members should be asked to guarantee five guineas, or multiples of five guineas, so that in the event of indemnity being required the money might be called up in the proportion promised. The sums promised up to the present amount to over 300 guineas. Further promises are solicited, but will not be called up unless required.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Southampton Port Sanitary District.—The efficiency of port sanitary administration in the port of Southampton is of special significance at this moment when, bubonic plague being present in South Africa, large numbers of troops are returning from the Cape and the Transvaal to this country and notably perhaps to Southampton. The regulations relative to plague, yellow fever, and cholera drawn up by Mr. A. Wellesley Harris, the medical officer of health, indicate that vigorous steps are being taken at Southampton and that the plague order of the Local Government Board is being liberally interpreted. It seems to be the practice to require all vessels from infected ports to bring up opposite Netley and there to await the visit of the medical officer of health. Moreover, a list of ports regarded as infected is drawn up by this officer and furnished to the Customs officers, pilots, ship-owners, and masters. This is in our view the proper arrangement, and we think that all port medical officers of health should endeavour to bring about similar inspections of vessels from infected ports. The regulations referred to contain, besides the list of infected ports, a concise synopsis of the symptoms of plague in one or another form, a caution as regards rats, directions for obtaining material for cases of suspected plague, a recommendation as to vessels being provided with a supply of Yersin's serum which, in the view of Mr. Harris, is both prophylactic and curative, and, lastly, a recipe for the preparation of a useful disinfecting solution.

Bristol Port Sanitary District.—This annual report might not inappropriately be termed "the rat report," seeing that a large portion of it is taken up with wholesome considerations as to the dangers of allowing rats from "infected" or "suspected" ports to have access to the shore and to hold communication with local rats. Dr. D. S. Davies and Mr. J. C. Heaven, the port medical officers of health, furnish in their report an interesting synopsis of much of the evidence which associates plague in rats with that in the human species. The writers of the report liken plague to typhus fever in respect of infectivity; but although this is an oft-quoted parallel we doubt if the bubonic type of plague at all approaches typhus fever in its infective power. With regard, however, to pneumonic plague a different story has to be told, its power of infectiveness being quite equal, if not above, that of typhus fever in modern days. To revert, however, to the question of rats there is no doubt that the part which they take in the diffusion of plague varies enormously in different outbreaks. In Sydney, as Dr. Davies and his colleague point out, the association of rats with the outbreak of plague in human beings was most marked, but, on the other hand, there is not sufficient evidence to show that either in the case of Oporto or Glasgow were these rodents instrumental in conveying disease. In the report which is now before us a summary is given of the measures of precaution adopted at sundry places in the direction of control of rats. A useful addition might have been made to this information by including the regulations as to ship-berthing which are in force in Melbourne and Sydney. In these regulations the master is required to sign a deed undertaking to fulfil all the conditions if his vessel is allowed to proceed to her berth and immediately to take her out of harbour on request. Among these regulations we note that the vessel is to be kept off from the wharf by means of fenders for a distance of at least four feet; fresh tar is to be applied to each end of the hawser or rope, such tar to be kept moist by repeated applications; all gangways are to be drawn up when not wanted for the discharge of cargo; and the ship's sides are to be well lighted by means of electric or other lights. We notice that Dr. Davies refers to a recommendation by Dr. Calmette that the discharge of cargo, especially grain and cotton, from places where plague exists should be strictly forbidden until the most rigorous inspection has been made. Bales and sacks should be opened and their contents emptied out and examined. "If any dead rats are found the whole must be destroyed without the ship being allowed to touch the quay." This is a far-reaching recommendation on the part of Dr. Calmette and it is difficult to believe that he entirely comprehends the magnitude of it or that he has given such advice without at least ascertaining that the rats died from plague. Dr. Davies himself furnishes a most instructive narrative which admirably illustrates the difficulty of dealing with a vessel thus circumstanced; and it is well that all port medical officers of health should be aware of it. On Jan. 22nd of this year it was reported that six rats had been found dead in the forehold of a vessel which had arrived on Jan. 20th at Bristol from Smyrna, with her crew all well. The vessel at the time of this discovery was discharging a cargo of barley and valonia by the quay-side in the centre of the city. One of the dead rats was examined by a local bacteriologist and the presence of plague was strongly suspected. It was not, however, deemed desirable to take definite action upon this suspicion, and, the watch on the vessel being redoubled and other precautions being taken, the report of the Local Government Board, to whom other rats had been sent, was awaited. On Jan. 27th the fact that the rats were infected with plague was announced by the central Board, and the ship in question was certified as "infected" under the terms of the plague order. Apparently she was sent into mid-stream and her holds were thoroughly fumigated with sulphur. After this the rest of the cargo was discharged and a second fumigation was carried out. The men who had unloaded the ship were kept under observation for 14 days. As Dr. Davies adds, the circumstances connected with this vessel raise some interesting points. Before confirmation of the rat examination three-fourths of the cargo had been discharged. Dr. Calmette would, it seems to us, have recalled this three-quarters and destroyed it, together with the remaining fourth. The Bristol sanitary authority, on the other hand, "disinfected" the remaining fourth, but apparently let the bulk of the cargo go, notwithstanding the fact that it was not improbably interspersed with rat dejecta, some of which may have been specifically fouled. But Dr. Davies acted in the only practicable fashion, and it is perfectly clear that he is as alive as any medical officer of health in this country to the dangers which threaten our ports. Theory and practice, however, are difficult to combine on board ship and in cases where cargoes worth perhaps many thousands of pounds are at stake. As with Southampton, so with Bristol,

the medical officer of health has drawn up a list of infected ports. Dr. Davies and Mr. Heaven, whose report is most interesting, supply a map of the world showing the places where plague has occurred since January, 1899.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 33 of the largest English towns 6203 births and 3189 deaths were registered during the week ending June 15th. The annual rate of mortality in these towns, which had been 16·7, 16·3, and 15·2 per 1000 in the three preceding weeks, further declined last week to 14·5 per 1000. In London the death-rate was 13·7 per 1000, while it averaged 15·1 in the 32 large provincial towns. The lowest death-rates in these towns were 8·5 in Croydon, 9·5 in Cardiff, 9·8 in Derby, and 10·4 in Portsmouth; the highest rates were 19·4 in Preston, 20·5 in Sunderland, 22·6 in Swansea, and 22·7 in Gateshead. The 3189 deaths in these towns last week included 357 which were referred to the principal zymotic diseases, against 337, 361, and 320 in the three preceding weeks; of these 114 resulted from measles, 78 from whooping-cough, 61 from diarrhœal diseases, 41 from diphtheria, 39 from scarlet fever, and 24 from "fever" (principally enteric). No death from any of these diseases was registered last week either in Plymouth, in Norwich, in Derby, or in Huddersfield; in the other towns they caused the lowest death-rates in Cardiff, Burnley, and Newcastle, and the highest rates in West Ham, Swansea, Wolverhampton, Bolton, and Gateshead. The greatest mortality from measles occurred in West Ham, Birmingham, Wolverhampton, Bolton, and Gateshead; from scarlet fever in Preston; from whooping-cough in Swansea, Wolverhampton, and Gateshead; and from diarrhœal diseases in Wolverhampton and Blackburn. The mortality from "fever" showed no marked excess in any of the large towns. The 41 deaths from diphtheria included 13 in London, four in Liverpool, four in Salford, and four in Leeds. No fatal case of small-pox was registered last week in any of the 33 large towns; only one small-pox patient was admitted into a Metropolitan Asylums hospital during the week, and one remained under treatment on Saturday last, June 15th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2594, against numbers increasing from 1522 to 2462 on the seven preceding Saturdays; 323 new cases were admitted during the week, against 341, 317, and 314 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 240 and 187 in the two preceding weeks, further declined last week to 159, and were 63 below the corrected average. The causes of 31, or 1·0 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Salford, Hull, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in Wolverhampton, Liverpool, Halifax, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·7, 20·1, and 19·6 per 1000 in the three preceding weeks, further declined to 16·9 per 1000 during the week ending June 15th, but showed an excess of 2·4 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 12·5 in Aberdeen and 15·7 in Paisley to 17·8 in Glasgow and 19·8 in Greenock. The 539 deaths in these towns included 32 which were referred to whooping-cough, 17 to measles, 17 to diarrhœa, three to scarlet fever, three to diphtheria, and three to "fever." In all, 75 deaths resulted from the principal zymotic diseases last week, against 94, 97, and 102 in the three preceding weeks. These 75 deaths were equal to an annual rate of 2·4 per 1000, which was 0·8 above the zymotic death-rate last week in the 33 large English towns. The fatal cases of whooping-cough, which had been 40, 47, and 48 in the three preceding weeks, declined again last week to 32, of which 16 occurred in Glasgow, nine in Edinburgh, three in Dundee, and two in Paisley. The deaths from measles, which had been 17 and 21 in the two preceding weeks, declined again to 17 last week, and included nine in Glasgow, two in Edinburgh, two in Dundee, and two in Greenock. The fatal cases of diarrhœa, which had been 30, 24, and 18 in the three preceding weeks, further decreased last week to 17, of which nine were registered in Glasgow and five in Edinburgh. The deaths referred to different forms of "fever," which had been three and six in the two preceding weeks, declined again to three last week and all occurred in Glasgow. The mortality from diphtheria showed a slight decline from that recorded in recent weeks, while that from scarlet fever was slightly in excess. The deaths referred to diseases of the respiratory organs in these towns, which had been 107 and 98 in the two preceding weeks, rose again last week to 101, and were equal to the number in the corresponding period of last year. The causes of 31, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 24·3, 21·3, and 20·0 per 1000 in the three preceding weeks, further declined to 19·6 per 1000 during the week ending June 15th. During the past four weeks the death-rate in the city has averaged 21·3 per 1000, the rates during the same period being 14·7 in London and 20·3 in Edinburgh. The 141 deaths of persons belonging to Dublin registered during the week under notice showed a decline of three from the number in the preceding week, and included eight which were referred to the principal zymotic diseases, against five and nine in the two preceding weeks; of these, four resulted from diarrhœa, three from whooping-cough, and one from "fever." These eight deaths were equal to an annual rate of 1·1 per 1000, the zymotic death-rates during the same period being 1·6 in London and 2·9 in Edinburgh. The mortality from diarrhœa showed a marked increase upon that recorded in any recent week, while the deaths from whooping-cough, which had been five, two, and five in the three preceding weeks, declined again last week to three. The 141 deaths in Dublin last week included 27 of children under one year of age and 40 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a slight excess on the numbers in the preceding week. Nine inquest cases and six deaths from violence were registered, and 39, or more than one-fourth, of the deaths occurred in public institutions. The causes of 12, or nearly 9 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING MAY, 1901.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 29 cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 8·5 per 1000 of the population, provisionally estimated at 4,543,757 persons in the middle of the year. In the three preceding months the rates had been 5·8, 5·3, and 5·2 per 1000 respectively. The rates were considerably below the average in Kensington, the City of Westminster, Stoke Newington, Wandsworth, and Woolwich; while they showed the largest excess in Fulham, Hackney, Finsbury, Shoreditch, and Bethnal Green. Three cases of small-pox were notified in London last month; of these, one belonged to St. Marylebone, one to Islington, and one to Bethnal Green. One small-pox patient was admitted into a Metropolitan Asylums hospital during the month, and remained under treatment on Saturday, June 1st. Scarlet fever was excessively prevalent last month; among the various metropolitan boroughs this disease showed the greatest proportional prevalence in Fulham, Finsbury, the City of London, Shoreditch, and Bethnal Green. The Metropolitan Asylums hospitals contained 2291 scarlet fever patients at the end of May, against 1791, 1533, and 1491 at the end of the three preceding months; the weekly admissions averaged 339, against 156, 142, and 179 in the three preceding months. The prevalence of diphtheria also showed a marked increase over that recorded in recent months; this disease was proportionally most prevalent in Hackney, Shoreditch, Bethnal Green, Poplar, and Deptford boroughs. There were 1101 diphtheria patients

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1901.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1901.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœal diseases.	Total.	Annual rate per 1000 persons living.			
LONDON	4,543,757	3	2062	1027	2	155	3	29	387	—	3688	8·5	1	202	75	90	249	—	24	—	77	718	1·6	6702	15·4	112
West Districts.																										
Paddington	144,154	—	43	29	—	5	—	3	7	—	87	6·3	—	—	1	5	9	—	—	—	1	16	1·2	174	12·6	90
Kensington	176,787	—	36	24	2	5	—	—	16	—	81	4·8	—	2	1	5	3	—	—	—	3	14	0·8	225	13·3	113
Hammersmith	112,619	—	44	24	—	3	—	—	11	—	82	7·6	—	1	1	2	13	—	1	—	2	20	1·9	147	13·6	122
Fulham	138,426	—	85	26	—	9	—	—	12	—	142	10·7	—	2	3	3	20	—	—	—	4	32	2·4	182	13·7	112
Chelsea	73,879	—	23	10	—	3	—	—	7	—	43	6·1	—	6	—	1	—	—	—	—	2	9	1·3	124	17·5	157
City of Westminster	182,502	—	43	26	—	15	—	—	7	—	91	5·2	—	—	3	2	13	—	6	—	1	25	1·4	254	14·5	72
North Districts.																										
St. Marylebone	133,000	1	43	32	—	3	—	1	19	—	99	7·6	—	2	1	2	7	—	—	—	3	15	1·2	200	15·7	90
Hampstead	82,287	—	23	19	—	3	—	—	3	—	48	6·1	—	—	—	2	2	—	—	—	1	5	0·6	81	10·3	105
St. Pancras	235,297	—	158	69	—	6	—	1	20	—	214	9·5	—	4	4	4	14	—	2	—	3	31	1·4	349	15·5	120
Islington	335,325	1	94	77	—	9	—	4	28	—	213	6·6	—	4	3	7	13	—	4	—	3	34	1·1	478	14·9	116
Stoke Newington	51,328	—	10	9	—	1	—	1	2	—	23	4·7	—	1	1	1	—	—	—	—	—	3	0·6	55	11·2	96
Hackney	219,780	—	95	86	—	9	—	1	30	—	221	10·5	—	4	3	9	7	—	—	—	2	25	1·2	297	14·1	106
Central Districts.																										
Holborn	59,205	—	23	13	—	—	—	—	10	—	51	9·0	—	3	—	2	—	—	—	—	2	7	1·2	90	15·9	82
Finsbury	101,233	—	73	28	—	3	—	2	7	—	113	11·6	—	3	2	5	3	—	—	—	8	21	2·2	215	22·1	147
City of London	26,627	—	17	6	—	1	—	—	2	—	26	10·2	—	—	—	—	—	—	—	—	—	—	—	48	18·8	94
East Districts.																										
Shoreditch	118,504	—	220	44	—	8	1	—	18	—	291	25·6	—	6	6	1	9	—	1	—	1	24	2·1	214	18·8	131
Bethnal Green	129,700	1	238	63	—	4	—	2	16	—	324	26·1	1	10	15	5	5	—	—	—	—	36	2·9	216	17·4	88
Stepney	298,324	—	102	78	—	12	—	5	28	—	225	7·9	—	20	1	8	13	—	3	—	7	52	1·8	530	18·5	119
Poplar	168,887	—	58	47	—	11	—	1	20	—	137	8·5	—	24	4	5	14	—	—	—	5	52	3·2	305	18·8	111
South Districts.																										
Southwark	206,219	—	90	43	—	6	—	—	12	—	151	7·8	—	26	4	2	15	—	—	—	4	51	2·6	371	18·8	123
Bermondsey	130,348	—	76	35	—	4	—	—	11	—	126	10·1	—	10	3	4	16	—	2	—	4	39	3·1	241	19·3	188
Lambeth	302,460	—	86	54	—	7	1	2	24	—	174	6·0	—	13	3	1	19	—	1	—	5	42	1·4	448	15·4	97
Battersea	169,364	—	65	24	—	3	—	1	6	—	99	6·1	—	14	1	2	13	—	—	—	5	35	2·2	204	12·6	102
Wandsworth	233,943	—	81	22	—	7	—	2	18	—	130	5·8	—	7	1	—	9	—	1	—	3	21	0·9	261	11·6	77
Camberwell	259,697	—	120	61	—	5	1	2	23	—	212	8·5	—	18	9	7	9	—	2	—	3	48	1·9	372	14·9	136
Deptford	110,732	—	43	36	—	2	—	—	4	—	85	8·0	—	11	3	1	7	—	—	—	—	22	2·1	170	16·0	141
Greenwich	96,188	—	42	10	—	6	—	—	16	—	74	8·0	—	9	1	1	9	—	1	—	—	21	2·3	138	15·0	100
Lewisham	128,423	—	48	20	—	2	—	1	4	—	75	6·1	—	1	1	2	4	—	—	—	1	9	0·7	143	11·6	90
Woolwich	117,619	—	26	12	—	2	—	—	5	—	45	4·0	—	1	—	1	3	—	—	—	4	9	0·8	170	15·1	101
Port of London	—	—	2	—	—	3	—	—	1	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

under treatment in the Metropolitan Asylums hospitals at the end of May, against 1111, 1084, and 960 at the end of the three preceding months; the weekly admissions averaged 160, against 136, 134, and 117 in the three preceding months. Enteric fever was slightly more prevalent last month than in the preceding month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Fulham, City of Westminster, Shoreditch, Poplar, and Greenwich. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 224, 162, and 121 at the end of the three preceding months, had further declined to 95 at the end of May; the weekly admissions averaged 14 last month, against 25, 18, and 16 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Hackney, Holborn, Shoreditch, and Greenwich. The 29 cases of puerperal fever included five in Stepney, four in Islington, and three in Paddington.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in the public institutions of London having been distributed among the various boroughs in which the deceased persons had previously resided. During the five weeks ending June 1st the deaths of 6702 persons belonging to London were registered, equal to an annual rate of 15·4 per 1000, against 19·8, 18·2, and 17·6 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 10·3 in Hampstead, 11·2 in Stoke Newington, 11·6 in Wandsworth and in Lewisham, and 12·6 in Paddington and in Battersea; the highest rates were 18·5 in Stepney, 18·8 in the City of London, in Shoreditch, in Poplar, and in Southwark, 19·3 in Bermondsey, and 22·1 in Finsbury. During the five weeks of May 718 deaths were referred to the principal zymotic diseases; of these, one resulted from small-pox, 202 from measles, 75 from scarlet fever, 90 from diphtheria, 249 from whooping-cough, 24 from enteric fever, 77 from diarrhœal diseases, and not one either from typhus fever or from any ill-defined form of continued fever. No deaths from any of these diseases occurred last month in the City of London; among the various metropolitan boroughs they caused the lowest death-rates in Kensington, Hampstead, Stoke Newington, Lewisham, and Woolwich, and the highest rates in Fulham, Bethnal Green, Poplar, Southwark, and Bermondsey. The fatal case of small-pox was that of a person belonging to Bethnal Green. The 202 deaths from measles showed a decline of 178 from the average number in the corresponding periods of the 10 preceding years; this disease was proportionally most fatal in Chelsea, Poplar, Southwark, Deptford, and Greenwich. The 75 fatal cases of scarlet fever slightly exceeded the corrected average; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Shoreditch, Bethnal Green, Poplar, Bermondsey, Camberwell, and Deptford. The 90 deaths from diphtheria were only about one-half of the corrected average number; this disease was proportionally most fatal in Paddington, Hackney, Finsbury, Bethnal Green, and Holborn. The 24 fatal cases of "fever" showed a marked decline from the average number in the corresponding periods of the 10 preceding years; the highest "fever" death-rates occurred in the City of Westminster, Islington, Stepney, and Bermondsey. The 77 deaths from diarrhœal diseases were almost equal to the average number; these diseases were proportionally most fatal in Fulham, Holborn, Finsbury, and Woolwich boroughs. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during May was nearly 29 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 112 per 1000. The lowest rates of infant mortality were recorded in Paddington, the City of Westminster, St. Marylebone, Holborn, Wandsworth, and Lewisham; and the highest rates in Chelsea, Finsbury, Shoreditch, Bermondsey, and Camberwell.

A TABLET placed in the Church of St. Andrew, Holborn, in memory of the late Dr. William Marsden, the founder of the Royal Free Hospital, was unveiled on Wednesday last by Archdeacon Sinclair. The tablet, which is set in one of the panels on the right of the entrance to the church, is the gift of the Cordwainers' Company.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a record of some of the principal amounts that have been received in aid of the Fund up to the time of going to press on Thursday. The total sum then amounted to £25,000. At the corresponding period last year the total was £24,000:—

	£	s.	d.
Mr. George Herring	10,000	0	0
Sir Fredk. L. Cook, Bart., M.P.	4000	0	0
St. Michael's, Chester-square	1228	0	0
All Saints', Ennismore-gardens	459	0	0
St. Mary's, Bryanston-square	272	0	0
St. Nicholas, Chislehurst	269	0	0
St. Paul's Cathedral	229	9	9
Delta	200	0	0
"A. G. P."	200	0	0
Westminster Abbey	177	0	0
All Saints', North Peckham	166	0	0
Holy Trinity, Tulse Hill	161	0	0
Christ Church, Mayfair	131	0	0
Holy Trinity, Roehampton	104	0	0
St. Paul's Presbyterian Church, Westbourne-grove	101	0	0
A. T.	100	0	0
St. John's Wood Presbyterian Church	100	0	0
St. John's Presbyterian Church, Kensington	100	0	0
The Earl of Cranbrook	50	0	0
Sunday Concert Society, Queen's Hall	50	0	0
Mr. Walter Cunliffe	25	0	0
Mr. Fredk. Druce	25	0	0
Mr. Norman McCorquodale	25	0	0
Mr. Alex. Miller	25	0	0
Mr. and Mrs. Chas. E. Layton	42	0	0
St. John's, Ealing Dean	27	0	0
St. Mary's, Finchley, Parish Church	32	0	0
St. Mary's Old Church, Stoke Newington	36	0	0
In Memoriam Crosby Lockwood, S.L. and D.E.L.	20	0	0
St. Matthew's, Brixton	46	0	0
St. James's, Camberwell	31	0	0
F. F.	30	0	0
St. Paul's, Upper Holloway	26	0	0
Mr. C. N. Steven	50	0	0
St. Anne's, Wandsworth	51	0	0
Mr. C. H. Hawkins	21	0	0
St. Luke's, Battersea	55	0	0
St. James's, Garlick-hill	28	0	0
St. Peter's, Ealing	22	0	0
East-hill, Wandsworth, Wesleyan	21	0	0
Brixton Independent Church	60	0	0
St. Mary Magdalene, Enfield	31	0	0
Ewell Parish Church and All Saints	33	0	0
St. Matthew's, Westminster	30	0	0
St. Peter's, Clapham	25	0	0
Orange-street Congregational Church	37	0	0
St. John's, Redhill	46	0	0
St. Mary's, Cuddington	25	0	0
Victoria Park Christian Evidence Association	71	0	0
St. Mary's, Boltons	72	0	0
St. Mary's, Hornsey-rise	23	0	0
Upper Holloway Baptist Church	21	0	0
St. Jude's, Upper Chelsea	29	0	0
Hornsey, Willoughby-road Wesleyan Chapel	21	0	0
Highgate Presbyterian Church	37	0	0
St. John Baptist, Pinner	26	0	0
St. Mary's, Shortlands	43	0	0
Metropolitan Tabernacle	50	0	0
All Saints', Woodford Wells	22	0	0
St. Mary the Virgin, Putney	25	0	0
Belgrave Presbyterian Church	25	0	0
St. Augustine's, Highbury	74	0	0
St. Luke's, Deptford	63	0	0
West Wickham Churches	44	0	0
St. Michael's, Barnes	20	0	0
St. Luke's, West Norwood	38	0	0
Holly Park Wesleyan Church, Crouch Hill	26	0	0
Archway-road Wesleyan Church, Highgate	23	0	0
St. Clement's, Ilford	20	0	0
Brentwood Parish Church	20	0	0
Lemsford Parish Church	62	0	0
St. Andrew's, Watford	30	0	0
Beckenham Parish Church	63	0	0
Finchley Presbyterian Church	30	0	0
"B. C. M."	25	0	0
Trinity Presbyterian Church, Wimbledon	28	0	0
High Beech Parish Church	26	0	0
St. Stephen's, Westminster	22	0	0
All Saints', Norfolk-square	23	0	0
Keston Parish Church	22	0	0
St. Mary's, Plaistow, Bromley	50	0	0
Mitcham Parish Church (moiety)	29	0	0
St. Luke's Parish Church, Chelsea	50	0	0
Merton Parish Church	37	0	0
St. Paul's, Forest Hill	50	0	0
St. Saviour's, Paddington	53	0	0
St. Thomas's, Portman-square	72	0	0
Trinity Presbyterian Church, Notting-hill	34	0	0
St. John the Evangelist, Putney	50	0	0
St. James the Less, Westminster	29	0	0
Bromley, Kent, Parish Church	50	0	0
St. Andrew's, Leytonstone	64	0	0
Christ Church, Newgate-street	44	0	0
Eaton Chapel, Eaton-square	25	0	0

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON THOMAS DESMOND GIMLETTE has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet.

Surgeon P. T. Sutcliffe is appointed to the *Niobe*.

ROYAL ARMY MEDICAL CORPS.

Albert Stanley Knight Prescott, Deputy Surgeon-General, retired list, has been selected for medical charge of troops at Gravesend. Captain C. T. Samman joins at Woolwich. Captain C. B. Lawson proceeds to Dover for duty. Lieutenant-Colonel Matthew D. O'Connell to be Colonel, vice C. F. Churchill, retired. Lieutenant-Colonel J. D. Day retires on retired pay.

INDIA AND THE INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among the officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels: *Bengal Establishment:* Frederic Daly Cæsar Hawkins, John Adams Cunningham, Alexander Silcock, Patrick Mullane, John William Rodgers, and James Farquharson Maclaren. *Madras Establishment:* Arthur Theophilus Lodge Patch, Charles Adams, Jamshedji Kharshedji Kanga, and Alfred James O'Hara. *Bombay Establishment:* Alexander Milne, Richard John Baker, William Alfred Corkery, and Sarkies Thaddeus Avetoom. Captains to be Majors: *Bengal Establishment:* Fairlie Russell Ozzard, Adam Rivers Steel Anderson, John Telfer Calvert, Edgar Jennings, and Arthur Gervase Hendley. *Bombay Establishment:* William Symonds Percival Ricketts, Charles Malcolm Moore, George William Jenney, and Charles Tilson Hudson.

The King has also approved of the retirement from the Service of the undermentioned officers: *Madras Establishment:* Lieutenant-Colonel Arthur Henry Leapingwell and Lieutenant-Colonel Francis Joseph Doyle. *Bombay Establishment:* Colonel Samuel O'Brien Banks, Lieutenant-Colonel Mathew Lorenz Bartholomeusz, and Lieutenant-Colonel Joseph Parker.

MILITIA MEDICAL STAFF CORPS.

Samuel Thomas Beggs to be Surgeon-Lieutenant.

IMPERIAL YEOMANRY.

Cheshire (Earl of Chester's): Surgeon-Captain G. Harrison resigns his commission, with permission to retain his rank and to wear the uniform of the regiment on retirement. Derbyshire: Surgeon-Captain C. H. Hough resigns his commission and is granted the rank of Surgeon-Major, with permission to retain his rank and to wear the uniform of the regiment on retirement.

VOLUNTEER CORPS.

Rifle: The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Brigade-Surgeon-Lieutenant-Colonel C. W. MacGillivray resigns his commission, with permission to retain his rank and to wear the uniform of the corps on retirement, vacating at the same time the appointment of Senior Medical Officer to the Forth Volunteer Infantry Brigade. 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Captain J. Maclachlan to be Surgeon-Major. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: William Starbuck Griffith to be Surgeon-Lieutenant. 1st Volunteer Battalion the Northamptonshire Regiment: Surgeon-Lieutenant J. Allison to be Surgeon-Captain. 3rd (Buchan) Volunteer Battalion the Gordon Highlanders: Robert John Cheves to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Woolwich Companies: John Hardie to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

Glasgow: Surgeon-Lieutenant-Colonel J. Macfie, 4th Volunteer Battalion the Cameronians (Scottish Rifles) to be Brigade-Surgeon-Lieutenant-Colonel on appointment as Senior Medical Officer to the Brigade.

SOUTH AFRICAN WAR NOTES.

In the official list of casualties which occurred at Wilmansrust on June 12th among the list of killed appears the name of Surgeon-Lieutenant H. A. Palmer, 5th Victorian Mounted Infantry.

The following are reported to be slightly improved:—Civil Surgeon Wilbond and Civil Surgeon Graham (June 14th).

The following officer has been discharged from hospital to duty: Civil Surgeon C. Lindsay Dunn. The following officers are on passage home: Major J. H. Greenway, R.A.M.C., Major A. E. Tate, R.A.M.C., and Civil Surgeons L. E. Owen, G. H. Bristow, R. Lindsay, F. B. Stewart, R. Whittington, and W. R. Griffin.

Mrs. Skey Muir, the honorary secretary of the Royal Army Medical Corps South Africa Fund, and Mrs. Charters Symonds, the honorary treasurer, have issued an appeal for contributions to enable them to send a final consignment of comforts to the men of the Royal Army Medical Corps in South Africa who still number over 4000. Contributions will be gladly received by Mrs. Charters Symonds, 58, Portland-place, W.

ARMY AFFAIRS IN SOUTH AFRICA.

The war news from South Africa is of a somewhat mixed character. On the one hand there has been severe fighting with De Wet's force near Reitz followed by its defeat with the capture of a convoy of stores, ammunition, vehicles, and horses by General Elliot's column; and, on the other hand, the surprise of a detachment of Victorian Mounted Rifles detached from General Beatson's column by the Boers near Middleburg in the Transvaal with the capture of two guns and severe loss to the Australians. Taken altogether the most recent war news is not of special importance, but the results are, on the whole, favourable to the British and show that the usual captures of prisoners, stock, and ammunition are still going on and that the opposition and strength of the Boer forces are being slowly but surely worn down. They carefully avoid all general engagements or fighting on any large scale. The list of casualties in the recent fighting is a heavy one considering the small size of the forces engaged and there is still the chronic drain going on from disease-causes. Some cases of bubonic plague have been recently reported from Port Elizabeth, Maitland, and Simonstown. The total number of cases hitherto reported from South Africa has been 714, of which 318 have terminated fatally. What most people regard as the most disquieting news does not come from South Africa or abroad, but has its origin in this country, and is of a political and manifestly party character. The movement to which we allude is one of limited extent and so far as it is of a purely political nature it does not concern us, but as a matter of common-sense we cannot shut our eyes to the injurious effect it is likely to have at the present time. No one is likely to accuse us of being unmindful of the sufferings of those who are detained or sheltered in the various camps of refuge in South Africa. In common, we suppose, with everyone else, we deeply regret the hardships, sickness, and other evils that have been brought upon a number of innocent women and children, but surely Mr. Kruger and those who sided with him and were instrumental in bringing about this war should have thought of all that beforehand and are responsible for it? To read much of what is being put forward at the present time it might be supposed that Mr. Kruger and his allies had never made any preparations for this war; that they had not delivered an ultimatum couched in the most peremptory terms and immediately followed it up by invading the late Queen's territory; and that the late President of the Transvaal Republic, after having involved his unfortunate country in all this misery and distress, had not consulted his own personal safety and interests and fled, leaving his suffering and ruined people and his wife to take care of themselves. Rightly or wrongly there are a good many people in South Africa and at home who think that but for the humanity, merciful consideration, and leniency with which the Boers and their families have been treated in the past, the war would have been over long ago. The task of providing for all the women and children is one of enormous difficulty and candour compels us to say that it would be about as just to blame the Government of this country for the present exceptional weather as to blame them for an outbreak of measles in one of the refugee camps or, under the circumstances, for the hardship and sickness entailed on the women and children generally. It is very poor consolation to the soldiers of the empire, who have been losing their lives and undergoing all the suffering and hardships of the campaign, often including want of food, for nearly two years to find that the sympathies of some of their countrymen are, after all, apparently with the Boers. This war in South Africa has, indeed, been unique in a good many respects; in addition to its having been throughout a fight with physical geography as well as with

an astute and stubborn foe. It has been the graveyard not only of innumerable humane and brave soldiers but of many military reputations and a source of keen disappointment to the medical service. But things will and must right themselves in the end, justice will be done, and the right-thinking, who happily form the large but silent majority, will see that it is done when they have the opportunity of declaring their opinion.

HÆMOSTASIS ON ACTIVE SERVICE.

In an original article bearing evidence of great research, which was published in the *Archives de Médecine et de Pharmacie Militaires* for March and the two following months, Surgeon-Major Moingeard treats of hæmorrhage on active service and the means for most effectually controlling it. It is the writer's object "to demonstrate on the one part the procedures which are the most simple, and on the other those which under the circumstances of a campaign could be employed with the greatest certainty." Some of the older authorities maintained that deaths from hæmorrhage on the field of battle were of infrequent occurrence, whereas others said that three-fourths of the fatalities were due to it. According to the Crimean statisticians primary hæmorrhage was responsible for 18 per cent. of the deaths during an action, and Chenu has placed the same proportion on record for the war of 1870. On the introduction of the modern rifle with its small hardened projectile the general belief was that hæmorrhage would attend on gunshot wounds with greater frequency than before, but in the opinion of Surgeon-Major Moingeard such has not proved to be the case. In the late Spanish-American war La Garde found that hæmorrhage was comparatively rare after gunshot injuries. Secondary hæmorrhage, according to Surgeon-Major Moingeard, is of two kinds. In the first variety the fibrino-globular plug which prevents the loss of blood becomes soft and disintegrated under the influence of suppuration, the degenerative process being entirely due to septic causes. In the second variety the plug becomes displaced while it is still healthy though friable, either in consequence of some derangement of the hæmostatic appliance or else owing to injudicious movements on the part of the patient or of his attendants. If gunshot wounds could only be kept aseptic from the first the latter form of secondary hæmorrhage would alone be met with. It is, however, very difficult to ensure the surgical cleanliness of gunshot wounds. First-aid is for the most part administered by stretcher-bearers whose hands are always more or less soiled. "Never," exclaims Surgeon-Major Moingeard, "shall we succeed in convincing these men of the capital importance of asepsis to an extent sufficient to induce them to wash their hands before touching open wounds." On active service it is, unfortunately, not always possible to apply surgical science in its perfection. Even at dressing stations, although the *personnel* be efficient and the *matériel* sufficient, the surgeon must content himself with "verifying the security of the provisional hæmostatic measures already adopted, making them, if possible, still more secure. Only very exceptionally shall he venture to apply ligatures in cases where he finds it is impossible to affix appliances. Needless to say he must not dream of arresting an internal hæmorrhage. He should at once apply an antiseptic and occlusive dressing without adventuring on any exploration whatever. We will say more—he should carefully refrain from all explorations of the wound." Not until the ambulance is reached can a wounded soldier hope to receive to its full extent the surgical aid which he would have in a civil hospital. The greater portion of Surgeon-Major Moingeard's paper is devoted to the mode of applying hæmostasis, according to the region of the body implicated. In the section on Wounds of the Neck the following interesting story is quoted from Larrey's *Clinique Chirurgicale*:—

> During the siege of Acre, while he was superintending a battery of artillery, M. Arrighy, who afterwards was Duke of Padua, received a bullet in his neck which severed the external carotid artery close to its separation from the internal and just before its entrance under the parotid gland. The fall of the wounded nobleman and the jets of blood spurting from both ends of the divided vessel attracted the attention of the gunners, and one of them, a highly intelligent man named Pélissier, had the presence of mind to promptly insert his fingers into these orifices, thus arresting the hæmorrhage. Having been immediately summoned I ran to the wounded personage's aid amidst balls and bullets. A compressive bandage, preceded by firm graduated compresses methodically applied, to my great astonishment, arrested the rapid march of death and saved this officer, who was cousin-german to the general-in-chief, Bonaparte.

Surgeon-Major Moingeard concludes his article with short chapters on Venous Hæmorrhage, Secondary Hæmorrhage, and General Treatment. In his summing-up he emphasises the need of better instruction for stretcher-bearers.

THE PUBLIC MEDICAL SERVICES.

It seems to be forgotten by the War Minister and all concerned how much turns upon the question of supply and demand in the matter of obtaining eligible candidates for the medical services. Great changes have, speaking generally, taken place in regard to the medical profession of late years. The medical curriculum has been increased from four to five years, entailing increased expense, longer courses of study, and a diminished number of students at the medical schools than was formerly the case. The public medical services have not kept pace with this altered state of things, while the amount of foreign service, of responsibility, and of work have gone on increasing. But even apart from these things there are underlying social questions and considerations which tend to affect the popularity of the services, and medical officers are tired, after having undergone all the hardships of a campaign in which they are conscious of having done their best, of being subjected to adverse criticism on the part of so many irresponsible or incompetent judges. Shortly put, the foregoing may be taken as expressing a very general feeling.

THE BOER PRISONERS AT AHMEDNAGAR.

As our readers are aware there was a great outcry raised when it was known that a large batch of Boer prisoners were to be quartered at Ahmednagar. It was pointed out in vain that an Indian station which was considered good enough and healthy enough for the occupation of British soldiers might suffice for the Boers. Ahmednagar is really a healthy elevated station and a pleasant and popular place of residence, and we now learn that the Boer prisoners are well satisfied with it and "full of gratitude at the kindness and consideration with which they have been received." They are housed in roomy, airy huts, enjoy a good deal of liberty, and are supplied with good rations and suitable clothing, and are, in short, very well off. The water-supply is, it is believed, of excellent quality.

ARMY MEDICAL SCHOOL, NETLEY.

The eighty-second session of the Army Medical School will be brought to a termination on Saturday, June 29th, when the prizes will be distributed by the Right Hon. the Earl of Northbrook, G.C.S.I.

On Wednesday, June 19th, Colonel W. J. Charlton and the officers of the Royal Army Medical Corps quartered at Netley entertained Surgeon-General J. Jameson, C.B., the retiring Director-General of the Army Medical Service, at a farewell dinner.

Surgeon-General A. F. Preston, A.M.S., has been selected for a distinguished service pension of £100 per annum.

Correspondence.

"Audi alteram partem."

"SURGICAL OR MEDICAL TREATMENT IN GASTRIC ULCER?"

To the Editors of THE LANCET.

SIRS,—Dr. L. Wheeler's letter in THE LANCET of June 15th is a valuable contribution to gastric surgery, but he gathers from my paper in THE LANCET of June 8th that I recommend "that, broadly speaking, all cases of gastric ulcer should be operated on as soon as the diagnosis is assured." I am afraid the length of my paper has so wearied the attention of the reader as to lead to its not being understood. I am certainly not in favour of operating on all cases of gastric ulcer, and I am as certainly not in favour of waiting till the diagnosis is assured before operating. Nothing is more fatal to success in abdominal surgery than waiting till the diagnosis is assured. And, paradoxical as it may seem, no surgeons perform so large a proportion of futile exploratory laparotomies as those who work with physicians who wait until the diagnosis is "assured" (and too often assured wrongly). *The right and simple rule is that every other reasonable, available, and safe means of diagnosis, which does not involve delay, should be exhausted before an operation is decided*

upon. If such a study of the case leaves one in absolute perplexity, that very condition of doubt may be the strongest reason for operating.

With regard to the case which Dr. Wheeler reports himself, improvement appears to have begun immediately after he opened and washed out the stomach with boric solution, and not before, in spite of morphia and rectal feeding. It would be interesting to have the history of this case after leaving hospital. It is of the kind which often comes to either gastro-enterostomy or pyloroplasty or Loreta's operation after all. With regard to the patient whom Dr. Wheeler did *not* operate on, a case of gastric ulcer which was treated on similar lines was discharged seven weeks ago from the West London Hospital apparently quite well. She returned in three days. Thanks to the acumen and decision of Dr. Otto Grünbaum, then house physician, I was asked to perform laparotomy, although the diagnosis was far from assured (at least, according to ordinary rules)—e.g., there was absolutely no abdominal tenderness. But perforation of a gastric ulcer had taken place. As there were pus and lymph in the pelvis as well as over the stomach and the perforation was 24 hours old the patient had a narrow escape.

Apropos of my inquiry as to the present condition of Dr. Wheeler's Case 1, I may mention that seven years ago a man nearly died from gastric hæmorrhage at Brighton. Afterwards his stomach dilated and his pyloric obstruction got worse so gradually that for years until the very day before his death (the 23rd ult.) he went to no medical man. An attack of tetany occurred and Dr. Gilbert Richardson was then called in. He promptly saw that nothing but surgery could save the patient, even if it were not too late for that. The tetany was relieved, but death occurred from exhaustion ten minutes before the surgeon's arrival.

I am, Sirs, yours faithfully,

Grosvenor-street, W., June 15th, 1901. C. B. KEETLEY.

"PRELIMINARY MEDICAL EDUCATION."

To the Editors of THE LANCET.

SIRS,—Dr. Lombe Atthill, in the explanation he has thought fit to offer in your columns of his reasons for voting against the resolution which I proposed at the General Medical Council, says that he voted against the resolution because it withdrew from the Council the main questions involved by the recent action of the London Colleges—viz., their ignoring the resolutions of the Council requiring five years' study at a recognised medical school and their consequently ceasing to require a certificate of registration from the candidates for their licence, and he states further that I announced that the vote on my resolution would be final, so that not alone was no expression of opinion possible on these points but no alternative course other than complete submission by the Council to the decision of the Colleges was possible under the resolution. As regards this last allegation Dr. Atthill is entirely in error on a question of fact, of course unintentionally. If he will refer to your report of the discussion he will find the following: "The President asked Dr. McVail whether he intended, if his motion were carried, to represent the matter to the Privy Council. Dr. McVail replied that if the motion were carried, as he hoped it would be, he would be perfectly content to leave the matter there until next session. The Royal Colleges and the other bodies would then have an opportunity of understanding the position of the Council in the matter."

I also said that my motion would not tie the hands of any other member of Council who might choose to propose any other resolution on the subject. It was, therefore, entirely open to Dr. Atthill or to any other member of the Council to have moved an amendment to my resolution or, had the resolution been carried, to have followed it by another directing whatever action the proposer might have thought to be desirable. It is, therefore, not the case that my resolution was in any sense final or withdrew any aspect of the question from the consideration of the Council. The resolution was as follows:—

> That the communications from the Royal College of Physicians of London and the Royal College of Surgeons of England, in so far as these relate to the courses of study accepted by them in the subjects of their first professional examinations, do not afford evidence that these courses of study are in all cases sufficient.

This directly relates to the first of the main questions alluded to by Dr. Atthill—viz., the resolution of the Council requiring five years' study at a recognised medical school, and yet he gives as his reason for voting against the resolution that it did not relate to the five years of curriculum. My resolution distinctly included the question of the substitution by the Royal Colleges of secondary and other schools as places in which the first year of professional study might be taken instead of at a recognised medical school as desired by the Medical Council. But as Dr. Atthill is of opinion "that when possible physics and chemistry should be taught as subjects of preliminary education" it would have been impossible for him to have done otherwise than vote against my resolution, but it is difficult to understand that his reason for doing so was because I did not propose stronger action against the Colleges for conduct of which in this particular he strongly approves.

The terms of my resolution were carefully framed so as to vindicate the position of the Council as to the courses of study for the first professional examination and yet to leave it open to the Council to postpone ulterior action for six months to enable the English Colleges to reconsider their action. I did not include in the motion any reference to registration in the Students' Register, as under the Medical Acts the Council cannot enforce such registration. The institution of the Students' Register was essentially a voluntary arrangement on the part of the universities and incorporations. It was extremely convenient and saved much trouble both to the students and to the officials of the licensing bodies, but any one of these bodies might ignore the Register should it so decide. My resolution dealt with the sufficiency of the courses of study, and the supervision of medical education is the primary function of the Medical Council. The Council is the General Council of Medical Education and Registration. Clause 20 of the Medical Act of 1858 is as follows:—

> In case it appears to the General Council that the course of study and examination to be gone through in order to obtain any such qualification from any such College or body are not such as to secure the possession by persons obtaining such qualification of the requisite knowledge and skill for the efficient practice of their profession, it shall be lawful for such General Council to represent the same to His Majesty's most Honourable Privy Council.

The very circumstance that *study* is in this clause undefined, imposes on the Council the duty of informing itself regarding every particular of the medical curriculum of every one of the licensing bodies as to the nature and extent of the curriculum which each of them should as a minimum require from candidates for its degree or diploma. The Council is left entire liberty as to the manner in which it will arrive at and express its opinion as to the courses of study which should be required. Just as in the matter of infamous conduct in a professional respect there is no definition in the acts and as courts of law have held that the decisions of the Council as to what constitutes infamous conduct are final and not to be reviewed by any judicial body in the kingdom, so does the twentieth clause in the Act give an equal power in the matter of the medical curriculum, and all powers and privileges possessed by any licensing body in virtue of charters or deeds of incorporation are subject to the twentieth clause of the Medical Act. It is the imperative duty of the Council to lay down its minimum of the course of study in any subject that it may deem requisite, and if the opinion of the Council be persistently ignored by any medical authority the Council must then perform its final duty of reporting to the Privy Council. This step the Council can never be eager to take, and no member of the Council is less desirous than I am to adopt such a course, and therefore it was that my motion was so framed as to leave the door still open to the Royal Colleges to conform to the Council's opinions. The Medical Council, however, having by a small majority refused the motion I proposed, and having then proceeded to other business, has left the English Royal Colleges free to continue in their present course of conduct, and the first year of the medical curriculum can continue to be taken by candidates for their diplomas at any one of a large number of ordinary schools, and that in courses which as to their length are altogether undefined, and this year at school is to be the first of the five years of their medical curriculum. No doubt other licensing bodies may be tempted to act likewise and, further, may regard themselves as being quite safe from any action on the part of the Council in making other departures in subsequent parts of the curriculum from what the Medical Council has declared to be necessary. Chaos indeed may result, and the work of 40 years be wholly undone. But I hope that at a very early date the Medical

Council may take steps to define rigidly and unmistakeably its position as to medical study under the unlimited duty and power which devolve on it under the twentieth clause of the Act of 1858.—I am, Sirs, yours faithfully,

Glasgow, June 19th, 1901. D. C. McVAIL.

"THE SWALLOWING OF FOREIGN BODIES."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 15th I notice a short article on "The Swallowing of Foreign Bodies" which concludes with the moral that "when a patient swallows his false teeth he knows it and does not infer it from symptoms." The following case will show that even this moral is not always a safe one to act upon. A woman of powerful physique and not hysterical sent for me one afternoon because she had just swallowed her false teeth. It was an incomplete gold set that had been given her many years back, when she was in domestic service, by her mistress, and in consequence of her having lost several teeth since the plate was made it fitted very loosely in her mouth. She told me that she was eating some cabbage soup and that she felt an unusually large piece of cabbage catch in one of the sharp angles of the plate and that the cabbage and the teeth slipped down her throat at the same time. On examining her abdomen and pressing firmly over the lower border of the stomach she complained of a sharp cutting pain which she, of course, concluded was the gold plate. I suggested making a thorough search over the house before attempting an operation, but the woman was indignant that I could suppose her capable of making such a mistake, and declared that she had positively "felt the teeth going down." I therefore promised to call the next morning and to do what was necessary for the recovery of her lost property. In the meantime, however, she had found her teeth among some potato parings and so no surgical interference was needed. I concluded that the teeth had actually slipped out of her mouth during the day without her noticing it and that she must have swallowed a bone with the soup, which passed through her intestines without giving rise to any symptoms. I have always been very suspicious of "false teeth" episodes, but particularly so ever since I saw a gastrotomy done for a set that was afterwards found in the patient's trousers pocket.

I am, Sirs, yours faithfully,

ERNEST O. B. VOISIN, M.R.C.S. Eng.

St. Heliers, Jersey, June 15th, 1901.

"LEGISLATION AGAINST NATIONAL INTEMPERANCE."

To the Editors of THE LANCET.

SIRS,—Dr. Andrew Wilson states of me that "in one case he appears a Weismannian out-and-out; in another he figures as an opponent of the view that it is the germ plasm alone that can transmit features from one generation to another." Dr. Wilson is mistaken in both instances. I have never been a supporter of Weismann and I have always maintained the obvious truth that it is the germ plasm alone that can transmit features from one generation to another—obvious since from the germ alone spring future individuals. As Dr. Wilson thinks it interesting perhaps I had better explain. Years ago Mr. Galton propounded the view that acquired characters are not transmissible. The higher plants and animals are compounded of cells, each one of which in a very real sense is a separate living entity. All the cells are differentiated for the performance of different functions, reproduction being reserved for the germ cells. Now there is no more reason for supposing that muscle or liver or any other of the somatic cells are concerned in reproduction than for supposing that germ cells are concerned in the production of motion or of bile. In other words, there is no reason for supposing that each one, or indeed any one, of all the millions of traits acquired by every man (for example) so impresses the germ cells that the *particular* trait the parent acquired is reproduced by the child. *A priori* the thing appears incredible. *A posteriori* the plant and animal kingdoms have been ransacked and no single instance of the transmission of an acquirement has ever been proved. We are entitled, therefore, to believe that acquired characters are not transmitted. Weismann supposes that some of the germ plasm of the parent is separated off and handed on practically unchanged to the offspring. He adds amazing complications in the shape of ids, idants, biophors, and so forth, the bearers of heredity. If his hypothesis be true it must follow as a corollary—*but as a mere corollary*—that acquired traits are not transmissible. But a theory that only inborn characters are transmissible is one thing; a theory as to *how* inborn characters (to the exclusion of acquired characters) are transmitted is quite another thing. The former (Mr. Galton's) theory rests on the solid ground of well-ascertained fact—on the cell theory. The other (Weismann's theory) is absolutely unsupported by evidence. It may or may not be true. There is not a shred of evidence one way or the other. No one has seen, or at least no one can recognise, the germ plasm, much less an id or an idant. Medical men commonly assume that the neo-Darwinian (Mr. Galton's) theory stands or falls by Weismann's metaphysical speculations. It would be as reasonable to decline to admit the fact of a man's death unless it were first proved that he died in a certain specified way.

While it is unbelievable that the characters acquired by alcoholic parents are transmissible to offspring, the assumption that parental ill-health due to alcoholism, or to alcohol circulating in the parent's blood and acting directly on the germs, may injure the latter and through them the offspring is a much less incredible assumption. But here, again, the evidence points to an opposite conclusion. Germinal changes are known to be transmissible to remote descendants. Did alcoholism injure the germs, a race that used it would, by the accumulation of injury during generations, tend towards extinction. I am not aware that the South Europeans, for instance, who have used alcohol for thousands of years, are approaching extinction or even that they are more degenerate than Terra del Fuegians who, Dr. Sharp notwithstanding, have never used alcohol. I know only that they have become extremely temperate, apparently through the elimination of the more drunken.

"M.D., B.S." complains that "the discussion of this question seems to have degenerated into a vain and unprofitable attempt to get at the meaning of Dr. Archdall Reid's theories." I daresay he is right, but the fault is not mine. I have endeavoured to avoid the mention of my theories. They did not seem to me relevant to the point at issue—the point as to whether temperance legislation is productive of *immediate* good or harm. I challenged opponents to mention a single instance when, under the *ordinary* conditions of civilised life, repressive legislation had not been productive of increased drunkenness as well as of many attendant evils—a very definite challenge to which there has been no reply. However, if "M.D., B.S." desires to have any definite point cleared up he has only to state it and I will do my best. Meanwhile, it is a pity that he did not verify his references. I suppose with care it would be possible to misrepresent the report of the Research Committee of the Society for the Study and Cure of Inebriety more completely than he has done, but it would be very difficult. He had no justification in the summary published in THE LANCET.

I have only one remark to add, to which, however, I wish to give all the emphasis possible. When the question of temperance reform is raised in such an organ as THE LANCET the interest it excites is not limited to a few medical men. The present controversy has been watched by the officials of every important temperance organisation in the kingdom. It is their business to keep themselves informed of the effects of temperance legislation all the world over, and presumably they are eager in the cause of "reform." The readers of THE LANCET will appreciate at its proper value the fact that though temperance reform has been tried on an enormous scale, these gentlemen have not attempted to controvert my very grave assertion that it has invariably been productive of increased debauchery when tried under conditions less than half as onerous as those which prevail in England at the present day.—I am, Sirs, yours faithfully,

Southsea, June 11th, 1901. G. ARCHDALL REID.

A CASE OF HERMAPHRODITISM.

To the Editors of THE LANCET.

SIRS,—I was asked to prescribe for a girl, aged 20 years, who had never menstruated. As, however, I did not care to do this without previous examination I obtained the necessary consent. I then found that the vagina ended in a cul-de-sac, and in making this examination the knuckle of my index

finger came against a swelling in one labium. I then exposed and found two fully-developed testes, one in each labium majus, and each in a sac of its own. They were freely moveable and there was testicular sensation. The clitoris was an inch long. The genital hair did not extend on to the abdomen but was limited to the pubes. The mammæ were small and poorly developed, although larger than in the male. The patient was tall and slight, with a coarse voice, and suffered now and again from hysteria and "ovarian tenderness," for which she had been blistered. There was sexual orgasm. It may be also mentioned that her brother has a hare-lip.

I am, Sirs, yours faithfully,

J. THOMSON SHIRLAW, M.B. Edin.

Upholland, near Wigan, June 13th, 1901.

"LOCAL v. GENERAL ANÆSTHESIA IN CERTAIN CASES OF ABDOMINAL SURGERY."

To the Editors of THE LANCET.

SIRS,—It would almost appear that the skilled anæsthetist can only look at anything involving the administration of anæsthetics from his own high level. In my letter on the above subject published in THE LANCET of June 8th I endeavoured, amongst other things, to point out that the administration of a general anæsthetic in a critical case, whilst, perhaps, fairly safe in the hands of a very competent anæsthetist, became a source of shock and danger in the hands of an unskilled administrator thereof. Will Dr. J. Blumfeld deny this? In operations of urgency in the country we can seldom obtain the services of a skilled anæsthetist, and Mr. T. H. Morse was, I consider, when speaking of his own extensive experience in such cases, justified in asserting that "shock varies in proportion to the skill of the administrator and is often dependent upon the duration of the operation and hence upon the amount of the anæsthetic which is inhaled."

I am, Sirs, yours faithfully,

Norwich, June 16th, 1901. S. JOHNSON TAYLOR.

THE BALLYMAGRAN SCANDAL AND THE IRISH LOCAL GOVERNMENT BOARD.

To the Editors of THE LANCET.

SIRS,—For the information and satisfaction of my friends who are readers of THE LANCET permit me to acquaint them that the Local Government Board have at my request held their sworn inquiry into the circumstances of the sad death of Mrs. Jones, and their decision is "that he [the medical officer] was not guilty of any neglect of duty in connexion with this case."

I am, Sirs, yours faithfully,

R. D. PATTERSON,

Medical Officer, Caledon and Ballymagran Dispensary District.

Caledon, June 18th, 1901.

CORPORATION MEDICAL APPOINTMENTS IN SOUTH AFRICA.

To the Editors of THE LANCET.

SIRS,—At the desire of the Honourable the Colonial Secretary, Cape Town, I inclose copy of a letter dated 11, Selborne-road, Denmark-hill, S.E., 23rd April, 1901, addressed to a medical gentleman residing in Cardiff, and signed by "Fred. E. Willson," regarding vacancies for corporation medical officers in South Africa. I am to state that the Cape Government knows nothing whatever of Mr. Fred. E. Willson or of the appointments to which he refers, and I would feel obliged if you would be good enough to publish this letter and its inclosure in order to warn medical men against putting any faith in Mr. Willson's representations. I am, Sirs, yours faithfully,

D. TENNANT, Agent-General.

100, Victoria-street, London, S.W.,
June 11th, 1901.

[COPY.]

11, Selborne-road, Denmark-hill, S.E., 23rd April, 1901.

DEAR SIR,—Your favour to hand April 20th. In reply to your query, the appointments are for corporation medical officers in S.A., the salary of £2 per day being guaranteed by the Cape Government. 20 men are wanted *immediately*. There is a grand opportunity for fully-qualified men under 40, general practitioners of good average ability, sound common sense, and *not less* than £150 or £200 available for outfit, passage money, and initial expenses able to start at once. No need to purchase a practice. I shall be pleased to give you all information and advise at personal interview only if you possess the above qualifications. By appointment of time to suit your convenience April 25th, 26th, and 27th, May 1st and 2nd.

Yours, &c.,

(Sgd.) FRED. E. WILLSON.

"DENTISTRY AND THE SERVICES."

To the Editors of THE LANCET.

SIRS,—I am glad to see that the scheme for the appointment of army dental surgeons which was recently published in THE LANCET as the result of my experiences in the Imperial Yeomanry Hospital at Deelfontein, South Africa, has so far borne fruit that four dental surgeons have been appointed and have sailed for the Cape. On their arrival the question will arise as to how their services can best be employed. Four dental surgeons are of no appreciable use to meet the requirements of the army, and as they are not to be supplied with workroom appliances they will not be able to deal with the worst cases that have to be invalided home for lack of artificial teeth. I think the best way would be to send all four of them to any one of the military hospitals, where the record of their work would indicate the necessity of sending 40 more to follow them as quickly as possible. The soldiers' teeth have been neglected, and on an average there is a day's work for a dental surgeon in the mouth of every one of them. This statement is confirmed by statistics derived from other sources. The appointment of four dental surgeons to each of the general hospitals would go far towards meeting the urgent needs of the army in South Africa, and the authorities could obtain a good deal of help from the practitioners in large towns to deal with cases which would otherwise have to be invalided home for artificial teeth. In Cape Town and Kimberley I found dental friends and practitioners who, I am sure, would do their best to meet the authorities in supplying dentures for special cases. I need scarcely refer to the proposal of Mr. Morton Smale, who thinks that the Royal Army Medical Corps should undertake the treatment of the soldier's teeth. A large number of additional army surgeons would be necessary, and it is not clear that they would prove better dentists or less expensive than ordinary dental surgeons.

I am, Sirs, yours faithfully,

June 17th, 1901. F. NEWLAND-PEDLEY.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—It is arranged to hold a dinner on Wednesday, July 24th, in the Whitehall Rooms of the Hôtel Métropole at 7 P.M., at which the Harben Medal will be presented to Professor Koch in recognition of his great scientific services. A large number of influential guests have already accepted invitations to be present, including Lord Lister, Lord Strathcona, Professor Brouardel, &c. The council will be glad to welcome anyone desirous of being present. Tickets for the dinner are one guinea (inclusive of wine) to be obtained from myself, an early application for which is desired.—I am, Sirs, yours faithfully,

W. A. BOND, M.D. Cantab.,
Honorary Secretary.

19, Bloomsbury-square, W.C., June 18th, 1901.

LIME-WATER FOR OUR STREETS.

To the Editors of THE LANCET.

SIRS,—During the last few years I have on several occasions advised the employment of freshly-made lime-water for watering our streets with in hot weather. The reasons which in the first instance led me to make the suggestion were the following: (1) the observation that animal excreta set mortar into a hard substance like egg-shell; (2) that lime tends to petrify and preserve wood under favourable conditions, as is seen in old half-timbered houses; (3) that it binds together bits of dry dung and so prevents them flying about in the wind; (4) that its slight solubility enables it to act gradually and for a lengthened period, as all perfect antiseptics should act; and (5) that it renders the surface of wood less greasy and slippery.

During a recent visit to Vienna I have had the good

fortune to see lime employed in the simplest possible manner for the disinfection of sewage at a new institution for the open-air treatment of phthisis. This institution, which is situated in an ideal spot in the hills of the Wiener Wald, is in every way excellent and up-to-date, and no pains seem to have been spared with regard to sanitary arrangements. Though I have always been a believer in the value of lime as a disinfectant I must confess to a little surprise when I discovered how simply and effectively it could be applied to the treatment of sewage. A day's sewage is collected in one of three tanks and with it is mixed "fresh milk of lime" in the proportion of 1 to 2 per cent. The whole is then allowed to settle for 48 hours. The clear fluid is drained off and the sediment is used for manure and is said to be of great value. I was assured that the purifying action of the lime was so complete that the treated fluid when allowed to escape from the tank was purer than the water of neighbouring mountain streams. I need not remind surgeons that fresh lime, if strong and in quantity, is a powerful caustic, but in weak solution it forms a soothing antiseptic dressing for the most sensitive conditions of the skin, such as scalds, burns or weeping eczema. Our streets have not been very offensive during the recent spell of hot weather because they have been constantly dry. If now in their cracked condition they become wet every crevice will be converted into an offensive little cesspool, unless the streets are watered with a suitable antiseptic. After what I have stated I do not think it is too much to ask that the proper authorities should give lime a fair—by that I mean a scientifically conducted—trial.

I am, Sirs, yours faithfully,

ALFRED EDDOWES, M.D. Edin.

Wimpole street, W., June 17th, 1901.

ACTIONS FOR NEGLIGENCE.

(FROM A LEGAL CORRESPONDENT.)

ALTHOUGH actions for negligence against members of the medical profession are of comparatively rare occurrence, their importance is such that a short outline of the law upon the subject may be found useful. No statute throws any light upon the question. The Medical Acts make no reference to the liability of members of the profession for malpractice, and the attitude of courts of justice can only be discovered from a consideration of the cases which have arisen from time to time.

The question, "What is negligent conduct on the part of a physician or surgeon?" is one of fact rather than law, just as the duty of the medical man towards his patient should be defined rather by reference to rules of etiquette and the working of his own conscience than by a strict legal formulary. It is the lot of the practitioner to be at the beck and call of his patients at all hours of the 24; it is his lot to have to continue in attendance upon a case when the chance of remuneration is small and where that remuneration, even if paid to the full, must constitute but a poor return for the fatigue of long journeys and the anxiety of many weary hours. In such circumstances it is satisfactory to know that slight carelessness or neglect will not necessarily be visited with a fixed punishment, but that all the facts will be considered before liability is attached to the unfortunate practitioner.

An attempt is sometimes made to draw a hard-and-fast distinction between qualified and unqualified practitioners when liability for negligence is under discussion. As a matter of fact no clear distinction can be drawn, the question being entirely one of degree. Nevertheless, the ignorance of a man who undertakes to perform a difficult operation is a matter which may have an important bearing upon his liability for negligence, and in so far as the quack is more ignorant than the registered medical practitioner he may be said to be under a greater degree of liability. A review of the cases in which damages have been recovered for negligent surgical or medical treatment generally discloses the fact that the heaviest penalties have been awarded against defendants who were unqualified. In Ruddock *v.* Lowe (4 F. & F. 519) the defendant, who kept an anatomical museum in the Strand, was unqualified, but he kept a qualified assistant as the ostensible practitioner and professed himself a master in the art of healing certain disorders "which he never undertook unless he could guarantee a perfect cure." The plaintiff who was suffering from such a disorder desired the advice of the defendant, who saw him frequently, treated him ignorantly and improperly, and administered an improper medicine, by which he was rendered worse instead of better. The jury found a verdict for the plaintiff, damages £200.

The question whether the practitioner has been guilty of negligence is one of common sense and of fact for a jury to decide upon. Chief Justice Tindal thus summed up to the jury in the case of Lamphier *v.* Phipos (8 C. & P. 475): "Every person who enters into a learned profession undertakes to bring to the exercise of it a reasonable degree of care and skill. He does not undertake, if he is a surgeon, that he will perform a cure, nor does he undertake to use the highest possible degree of skill. There may be persons who have higher education and greater advantages than he has, but he undertakes to bring a fair, reasonable, and competent degree of skill, and the question is whether the injury must be referred to the want of a proper degree of skill and care in the defendant or not." It was also pointed out by Chief Justice Erle in Rich *v.* Pierpont (3 F. & F. 35) that "it is not enough to make the defendant liable that some medical men of far greater experience or ability might have used a greater degree of skill, nor that even he might possibly have used some greater degree of care."

In America the correct rule has been said to be that a physician and surgeon when employed in his professional capacity is required to exercise that degree of knowledge, skill, and care which physicians and surgeons practising in similar localities ordinarily possess (see Dunbauld *v.* Thomas, Am. Law Dig., 1900, p. 3656).

As has been said, the question of what is negligence is one which depends on the facts of each particular case. The following American cases are useful instances. Thus in Edwards *v.* Lamb (Am. Law Dig., 1900, p. 3656), where the plaintiff under the direction of the defendant assisted in dressing a wound of her husband and became infected with poison by reason of slight scratches on her fingers, the defendant, who knew of the danger, was found to be guilty of negligence in assuring her there was none, since he was not justified in assuming that her hands were free from such wounds. In another extraordinary case it was decided that a physician is under no obligation while a person is his patient to tell her or her husband that a fragment of a needle broken in a surgical operation was left in her body, but it is his duty to tell her so when discharging her as his patient from his care (Eislein *v.* Palmer, Am. Law Dig., 1899, p. 1670).

The question, "To whom is the practitioner liable?" is often one of considerable importance as he is frequently employed by the relatives of his patient, while the injury attributable to negligent treatment is sustained by the patient alone. It has often been decided that although the practitioner may have been employed by the next friend of his patient yet the patient can bring an action and recover damages for negligence. Thus in Gladwell *v.* Steggall (5 B. N. C. 733) the plaintiff by her next friend sued the defendant, "who was a clergyman and who practised also as a medical man," for damages for a misfeasance. It was held that the fact of the plaintiff submitting to the defendant's treatment was sufficient proof of an allegation of employment of the defendant by her.

This leads to the consideration of the question whether surgeons and others who hold staff appointments and who give their services gratuitously to the patients in hospitals can be sued for negligence. The writer is not aware of any action having been successfully brought against a hospital surgeon for negligence, the distinctive feature of his position being that what he does he does gratuitously. The few cases which are upon record, although they come very near to the point, fall short of actually deciding it. The consequences of holding surgeons irresponsible in such cases were thus pointed out by Baron Garrow in the case of Pippin *v.* Sheppard (11 Price, 400): "In the practice of surgery the public are exposed to great risks, from the number of ignorant persons professing a knowledge of the art, without the least pretensions to the most necessary qualifications, and they often inflict very serious injury on those who are so unfortunate as to fall into their hands. In cases of the most brutal inattention and neglect the patients would be precluded, frequently, from seeking damages by course of law, if it were necessary to enable them to recover that there should have been a

previous retainer on their part of the person professing to be able to cure them. In all cases of surgeons retained by any of the public establishments it would happen that the patient would be without redress, for it could hardly be expected that the governors of an infirmary should bring an action against the surgeon employed by them to attend the child of poor parents who may have suffered from his negligence and inattention."

While the liability of a hospital surgeon for his personal acts has been left unsettled, it has been decided that a hospital surgeon is not liable for the acts or defaults of nurses in the hospital to whom the more minute care of the patients is entrusted. Thus in the case of Perionowsky *v.* Freeman (4 F. & F. 977) the plaintiff, who had been a patient at a London hospital, sued two of the surgeons for maltreatment there by causing him to be placed in a bath so hot that he was scalded and injured. It was proved that the bath had been ordered by the defendants but that it had been actually administered by the nurses. Chief Justice Cockburn, in leaving the case to the jury, said: "The defendants cannot be held liable for the negligence of the nurses unless they were near enough to be aware of it and to prevent it. No doubt persons who go as patients into hospitals are not to be treated with negligence, but, on the other hand, medical gentlemen who give their services gratuitously are not to be made liable for negligence for which they are not personally responsible." A verdict was returned for the defendants. So much is generally left to the nurses and attendants at a hospital that the above case will serve to relieve the staff of much responsibility.

Passing on to consider a few cases of more recent date it is interesting to notice that save in cases of exceptional hardship juries seem to be inclined to decide actions for professional negligence in favour of the practitioner. In a case which occurred in March, 1899,[1] the plaintiff sought to recover damages from the defendant in respect of alleged negligence in his professional treatment of her. It appeared that he had opened an abscess and inserted a drainage-tube. This tube was afterwards missed, but it was supposed that the patient had lost it when she removed the bandages. The wound eventually healed, but ultimately a second operation was performed by another practitioner, and a piece of indiarubber tubing was removed from the arm. The defendant denied that he had been guilty of any negligence. Corroborative evidence was given by two other practitioners who said that it would not have been justifiable to slit up the sinus in order to search for the tube. The jury found a verdict for the defendant whose case had been conducted by the Medical Defence Union.

Where the damages arise through some mistake against which no practitioner can at all times be on his guard it is in the highest degree important that the defendant should be absolved from responsibility. In Russell *v.* Cree[2] the plaintiff, a clerk, sought to recover the sum of £24 damages in the Clerkenwell County-court for the alleged negligence of the defendant, a medical practitioner, in certifying that "he was suffering from scarlet fever and was therefore unable to follow his profession." It turned out that he was in reality suffering from "erythema." It was shown that the case was extremely doubtful and that the spots visible were very deceptive. Judge Meadows White said that he could not see where the negligence came in and the action was dismissed.

The question must sometimes occur to the practitioner whether he is in duty bound to go on with a case after he has seen the patient once. Continued attention may in some cases prove very irksome, especially if the patient lives at a distance and is not a regular patient. The following Scotch case[3] serves to show that while a medical man is not bound to continue attendance in an emergency case a jury may sometimes be persuaded to give damages. It appeared that the defender as the nearest medical man had been called in to attend a labourer who had sustained a fracture of the tibia of his right leg just above the ankle. Upon examination the defender found that the man was not in a fit state to have the leg set and for several reasons he advised that he would be better at the Edinburgh Infirmary, six miles off. Having done up the pursuer's leg so as to guard it against the dangers of removal he sent him to hospital, intimating at the same time that he would have nothing more to do with the case. He was not the regular attendant of the pursuer nor was he the surgeon for the mill at which the pursuer had been working. Further, the defender never entered the pursuer's name in his books nor did he ask any fee for what he had done. After seeing the pursuer the defender was himself laid up with influenza for a month, when he again saw the pursuer, who had never been moved to the hospital. By that time the mischief had been done, and as the result of an operation which was then found necessary one leg was shorter than the other. Lord Adam, who charged the jury in an action brought against the defender for negligence, said that the case turned altogether on the question whether the defender undertook in November to give his continuous professional attendance to the pursuer. He also remarked: "Because a doctor attends a man in an emergency it does not follow that he is bound to go on with the case. Unless it is proved that besides doing what he did he also undertook to treat the pursuer as his patient the obligation ceased." In spite of this very explicit direction the jury returned a verdict for the pursuer with £50 damages. Although the jury decided in favour of the plaintiff the direction of the learned judge in the above case represents an accurate statement of the law, and it corresponds with the attitude taken up by American lawyers. In Keller *v.* Lewis (65 Ark. 578) a physician gave his services gratuitously to a patient who knew he was going away. It was held that he was responsible only for such treatment as he had administered personally and that he could not be held liable for any negligence or want of skill on the part of a physician who was subsequently called in.

Apart from the risk of having an action lodged against him for negligence the practitioner may also find his alleged negligence set up in answer to a claim for fees. It was long ago decided that if the defendant in such an action receives no benefit, *in consequence of the plaintiff's want of skill*, the latter cannot recover (Kannen *v.* McMullen, Peake, 59); but the remuneration of a practitioner who has used due skill and diligence does not depend on his effecting a cure. In the case of a surgeon, if an operation which might have been useful has failed in the event he is nevertheless entitled to charge; but if it could have been useful in no event he has no claim (per Alderson, J., in Hill *v.* Featherstonhaugh, 7 Bing. 574).

From a report of the case of Matcham *v.* Lacey,[4] it appears that at least one member of the county court bench takes the view that when a medical man undertakes a case he must go through with it to a finish, although the parents or other persons who have immediate control of the patient persistently refuse to take the medical man's advice. In the case under notice the plaintiff retired from a case on this ground and sued for his fees up to date. The learned judge found in favour of the defendants, remarking that a medical man is bound to continue in attendance upon a case which he takes up and that if he leaves it at an early date he must forego his entire fee. It is very doubtful whether this is a correct statement of the law. If the medical attendant gives sufficient notice to his patient and entrusts the case to a brother practitioner in whom he has confidence it would be hard indeed to find him guilty of negligence and so to deprive him of any reward, especially when his motive for leaving the bedside was his clear perception that those in charge persistently refused to take his advice or, although able to afford the fees, the patient's friends were determined not to pay. A solicitor will often refuse to proceed without a payment on account. A medical practitioner, although his doing so would not be consistent with the highest professional etiquette, should be allowed to take the same course in emergency.

[1] Brit. Med. Jour., March 18th, 1899.
[2] Ibid., March 17th, 1894, p. 608.
[3] Ibid, April 7th, 1894, p. 755.
[4] Ibid., May 4th, 1901, p. 1121.

CENTRAL LONDON THROAT AND EAR HOSPITAL, GRAY'S INN-ROAD.—The annual meeting of the committee and subscribers of this hospital, of which H.R.H. the Duke of Connaught is the patron, was held last week, Captain Hutton presiding. The report read by the secretary, Mr. R. Kershaw, showed that the ordinary income of the hospital for the past year amounted to £2032 and the expenditure to £2328. The liabilities at the present time were no less than £3579, of which £2000 were owing to the bankers; an urgent appeal was made for funds to redeem these debts and also for the erection of an operation room, towards which the council of the Prince of Wales's Hospital Fund had given a donation of £150.

THE CONTAMINATION OF POST-OFFICES.

ACTION TAKEN BY THE FRENCH GOVERNMENT.

(FROM OUR SPECIAL CORRESPONDENT.)

THE candidates for employment under Government are far more numerous than the vacancies that occur. This is not only the case with regard to the better paid posts of the Civil Service, but even the poorest positions in small post-offices, for instance, are eagerly sought after. But if the demand for employment under Government is keen in England it is even more accentuated in France. Such a form of occupation is thoroughly in keeping with the natural instincts of a large section of the French people. There the spirit of commercial enterprise is not so widely developed, but there is a very strong love of officialdom, consequently it is more easy for the French Government than for the English Government to obtain the civil servants needed by the various State Administrations. Under such circumstances there is no absolute need to improve the conditions of employment. Even if these are unhealthy and the civil servants die off rapidly it will be easy to replace them. This is a callous view to take, but then Governments or Ministers are so busy and have so many matters to manage. The poorer and less influential classes are thus especially likely to be neglected. It is therefore particularly to the credit of the present French Government that it should have gone out of its way to improve the condition of its humblest servants. As an employer it is especially in the postal and telegraphic services that the State engages the service of a large number of persons at a low rate of pay. Now in France, and more particularly in Paris, it has been found that an exceptionally large proportion of the post-office clerks and others employed indoors died from tuberculosis. This disease is not so prevalent among the letter-carriers whose work keeps them out of doors. Consequently, in the month of April, 1900, a circular was sent by the Government to the chiefs of all the post-offices insisting that an official notice should be hung up warning the public not to expectorate on the floor. But the first injunctions sent out produced very little effect, and Dr. Mignot, member of the Government Commission of Tuberculosis, was instructed to draw up a special report on the subject for the administration of the posts and telegraphs. Dr. Mignot's report bears the date of Jan. 9th, 1901, and has become, as it were, the scientific sanction of the more energetic measures now taken by the Government.

Dr. Mignot points out that the Commission appointed by the President of the Council—i.e., M. Waldeck-Rousseau—to discover the most practical means of checking the spread of tuberculosis had lengthily discussed the dangers arising in localities where a large number of persons gather together. In such places one single individual suffering from tuberculosis and expectorating on the floor might, they considered, endanger the health of hundreds of other persons. On the other hand, as the means by which tuberculosis is spread are now known, this danger might be almost entirely dispelled if the proper precautions were taken. Where many were employed, and especially if they were employed by the State, it was easy to take these precautions. A useful example could thus be given. Dr. Mignot regrets he cannot produce precise statistics because those suffering from the earlier stages of tuberculosis were not known to the Administration. Nevertheless, it was ascertained that in 1899 there were about 71,000 persons employed in the French postal and telegraphic services. Of this number 200 were certified to have died from tuberculosis during that year and 83 had to be dismissed because they were suffering from this disease. This is equal to a mortality of 28·1 per 10,000 and a loss to the service of 40·5 per 10,000 through tuberculosis alone. But if we take into consideration those who die after they have been removed from active service the mortality from tuberculosis among this category of civil servants is likely to be about 40 per 10,000. The general mortality from all diseases was 1557 during the years 1897, 1898, and 1899, and the deaths from tuberculosis amounted to 561, not including those who had been dismissed from the service; therefore, out of 100 deaths about 36 are due to tuberculosis. Taking the entire population of France the deaths from tuberculosis are set down at 54 per 10,000, but this higher figure deals only with the towns where there is a regularly established statistical service, and this does not exist in many rural districts for the general public, though it does for the persons in the employ of the State. Also, the higher figure includes persons of all ages and conditions of health, while those engaged in the postal service have to pass a medical examination before they are admitted. The fact that the employés in the postal services are especially exposed to tuberculosis is more emphatically demonstrated if only the statistics of Paris be taken. In 1899 the post-office clerks, &c., numbered 1500. Of these, 43 died from tuberculosis and 50 had to retire from the service in consequence of this disease. This made a loss equal to 62 per 10,000, whereas the mortality from tuberculosis for the entire population of Paris amounted to only 49 per 10,000.

The first precaution to be taken, according to Dr. Mignot's report, is to prevent the contamination of the post-offices by providing numerous spittoons. These should not be put on the floor but on stands about three feet high, and they should contain an antiseptic solution. The whole question resides in preventing the desiccation of the sputa and its conversion into dust that can be conveyed to the lungs with the breath. Till such measures have been enforced Dr. Mignot insists that every post-office must be considered as a contaminated place. The method of cleaning the offices must be altered. Sweeping and dusting only propagate the evil. The broom, says Dr. Mignot, "is a terrible engine of death." The floors must be wiped over every day with wet rags and scoured once a week. This practice has already been introduced in barracks and police-stations. The ideal would be to wash in the same manner the walls and the ceiling. The floor, especially where the public is admitted, should be made of an impermeable substance. But the greater part of the offices have been built in a most unsuitable manner and there are any amount of dark corners, angles, and recesses where dangerous dust accumulates. The telephone cabinets are also dark and unsuitable recesses. All this, it is urged, must be altered when new offices are built. With regard to the postal servants themselves, no candidate suffering from tuberculosis should be accepted. Instruction should be given to all as to the best means of protecting themselves from this disease. Finally, when anyone contracts tuberculosis he should be sent away and properly treated. The medical examination before admission to the service should be more strict; the written details given of the diagnosis of illness during service should be more detailed, especially when the complaint is contagious. When a case of tuberculosis does occur it is rarely possible to nurse the patient properly in his own house, and yet the State cannot abandon its servants. Therefore, and in spite of the considerable cost involved, Dr. Mignot recommended that a sanatorium should be built for the employés who suffer from tuberculosis.

Following upon this advice a sanatorium for tuberculous patients has now been established near Paris, and M. Millerand, Minister of Commerce, Posts, and Telegraphs, sent out a strongly-worded circular to the chiefs of all the post-offices, which was dated Feb. 1st, 1901. In the first sentence M. Millerand complains that in spite of numerous recommendations issued in regard to the sanitary measures to be adopted at the post-offices these offices are still left in a very defective condition, and he adds: "I absolutely insist that this state of affairs, which is so prejudicial to the health of the employés and of the public, shall cease." Therefore M. Millerand gives instructions that on the receipt of this circular spittoons containing a 2 per cent. solution of sulphate of copper must be placed in the post-offices. They should be of a cone-like shape and of enamelled ironware. The contents must be thrown down the drains at least every other day, and the posters instructing the public as to the importance of utilising the spittoons are to be put up in prominent positions in the post-offices. Any postal servant who does not observe the rules must be reported. Further, the circular adds that the floors of all the post-offices are to be rendered impermeable by the application of a coal-tar mixture. Then when the leases of the premises occupied are terminated they must not be renewed unless the proprietor consents to effect sundry sanitary improvements, including the substitution of tiles for the wooden floors. Nor must the sweeping with brooms be allowed—cloths wet with a 2 per cent. solution of carbolic acid must be used instead. Wall-papers are to be replaced whenever possible by oil-paint, coloured varnish, or other substances that can be easily washed. Nor must posters and

public announcements be allowed to remain too long on the walls, but must be renewed when dirty or dusty. All the chairs, desks, and other furniture must be kept scrupulously clean. The telephone cabins must be washed out every day with a carbolic acid solution. "Further," adds M. Millerand, "I attach the greatest importance to the frequent cleansing of the urinals and water-closets and that the offices should be amply ventilated, especially during the hours when the staff is absent." Other equally practical instructions are given and this in an authoritative and positive manner. Then the circular concludes with the warning that inspectors will be sent round to see if these instructions have been carried out.

In regard to the construction of new post-offices a Ministerial decree was issued on Jan. 30th, 1901, stating that all plans for such edifices must be submitted to the medical committee attached to the Ministry before they can be sanctioned. Further, all premises which are to be used for the postal services must be inspected by medical officers especially appointed for that purpose. Details for the application of this decree are given in a Ministerial circular, dated April 1st, 1901. This circular first explains that, so far, the tendency has been to instal the postal services in buildings that already exist and that were not constructed for this special purpose and consequently are so defective as seriously to compromise the health of the employés. Therefore, the circular urges that whenever possible instead of renting existing premises buildings should be erected especially for the postal services. The local postal authorities are urged to endeavour to come to some mutual agreement with private banks and other financial establishments which need offices possessing somewhat similar sanitary advantages. To facilitate such endeavours the architects attached to the administration, acting according to the indications given by the Ministerial Medical Committee, have drawn up plans of model post-offices, and these accompany the circular. In regard to the premises occupied for the postal services there is also a circular forbidding the employment of lead in the paint used. No building contract is to be signed unless those concerned undertake to employ oxide of zinc instead of lead in the paint used for the walls, doors, &c. From all this it will be seen that the Minister of the posts and telegraphs has exercised paternal watchfulness over the 71,000 persons who are under his control. The great difficulty is the ignorance and indifference of the postal employés themselves. Their knowledge of bacteriology and of sanitary science is very limited and all the rules and restrictions which M. Millerand is endeavouring to impose are apt to be qualified as grandmotherly legislation that is vexatiously meddlesome and trivial. But there is no better form of education than that derived from object-lessons, and as these sanitary measures are more widely enforced the persons concerned will gradually realise their advantage and lend themselves to their more strict and effective application.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

An Important Scheme in Connexion with the Indian Census.—The Biological Treatment of Sewage in Bombay City.—The Decline of the Plague Epidemic.—Precautions at Simla.—The Indian Medical Service.—Some Acquired Habits of the Natives of India.—The Continued Famine.

A SCHEME has now been sanctioned whereby various investigations are to be undertaken in connexion with the census operations with regard to ethnography, or the systematic description of the history, structure, traditions, and religious and social customs of races and castes in India, and also their anthropometry. Each local government will appoint a superintendent who will have a staff under him and who will have funds to reward persons to draw up the monographs on the various castes for the provinces of Madras, Bombay, Bengal, the North-West Provinces, the Punjab, Burmah, the Central Provinces, and Assam. The total cost will exceed £10,000.

Probably on account of the successful institution of the biological treatment of sewage at the Leper Asylum, Bombay, the commissioners of the city are about to adapt this system to a part of the drainage of the city. It is proposed to construct a septic tank to contain one day's flow, or 300,000 gallons, of sewage. The process is much more rapid in the higher temperature of India than in England, so that this construction gives a liberal allowance. The tank is to be made into compartments in case it requires to be cleaned. In addition to the septic tank there will be bacteria beds to carry on the aerobic purification. These will be filled automatically and will thus give to the beds their periods of aeration. The gas which comes off from the septic tank is to be collected and utilised for the illumination of the works at night. The effluent, which in the Leper Asylum has been proved to be so remunerative on the farm, will in the city drainage scheme unfortunately be allowed to run into the sea. This system of treatment of sewage is also to be applied to several adjacent villages and will in this installation be utilised for the irrigation of a farm. It is expected that the annual cost of the latter experiment will be more than covered by the yield of the farm. As the farm has been made to pay at the Leper Asylum I do not see why it should not, if properly managed, be made to pay elsewhere. The adoption of this scheme by the Bombay municipality speaks well for the work already executed by the engineer at the Leper Asylum.

The epidemic of plague is declining rapidly. The total deaths throughout India for the week ending May 25th were 1427, as compared with 1918 in the previous seven days. The deaths, however, are still in excess of the corresponding period of last year. The mortality has dropped in Bombay city from 295 to 199, and in the Presidency from 457 to 97. In Bengal the worst places are Calcutta (47 deaths), Patna district (38 deaths), Saran district (78 deaths), Gaya district (36 deaths), and Darbhanga district (57 deaths). There has been a slight rise in the Jumna district of Kashmir. An unfortunate occurrence is reported from Patiala territory. Inoculation had been introduced for a few cases of plague, and amongst others a Hindu lad was inoculated but died within an hour. The medical man declared the death to be due to plague, but the villagers were up in arms and put the death down to inoculation. This incident has of course acted adversely to the progress of inoculation and it shows apparently great carelessness. If the lad died from plague he must have been ill when he was inoculated. Some authorities seem to think that this operation can be left to almost anybody to perform, but it would seem that these public performances of inoculation by officials should be only made under direct European supervision. A somewhat similar death following inoculation occurred some time ago in Calcutta and it is said to have acted to the discredit of inoculation ever since.

The proximity of plague cases to Simla has determined special precautionary measures being taken to prevent plague cases occurring in that place. A plague hospital and camp have been constructed and the usual arrangements for segregation have been made. During the last fortnight a large quantity of plague prophylactic serum has been sent out from the Plague Research Laboratory, Parel, Bombay, some going to Shanghai, some to the Seychelles, and some to South Australia.

There is a proposal to increase the strength of the Indian Medical Service, as recent experience has shown it to be seriously undermanned. Until this has been decided upon the further proposal to divide the furlough reserve of the service between the military and civil departments will stand in abeyance.

So-called German "whisky" has apparently attracted the taste of the poorer classes in India. It has had a largely increased sale during the past year, probably from its cheap price of about Rs. 3 a gallon. British spirit costs over Rs. 8 and French spirit nearly Rs. 10 a gallon. Recent revelations are said to have shown that this "whisky" sent to India is made of methylated spirits, coloured, sweetened, and flavoured. It has been known for some time that well-to-do natives have developed a taste for whisky and other strong alcoholic beverages, and that this altered taste is extending rapidly. Whether these forms of alcoholic liquors will be withstood by the native constitution remains to be seen. Another change of habit is said to have occurred in the more general use of umbrellas by all classes of natives. A serviceable umbrella is largely imported which sells at about a rupee. The importance of this innovation consists in the probable effect of the sun's rays after the prolonged use of the umbrella has caused the native's head to become more sensitive. Some authorities will assert that sunstroke only occurs in those who are overfed or who have alcohol in their stomachs. It is at any rate very uncommon among those who are in repose—exercise

being a powerful factor in its determination. The native with his dark eyes and black skin can readily withstand the glare of the sunshine. This it is which causes the chief distress and minor ailments to the pale-faced European. Even among the latter sunstroke is probably not so common as is generally supposed. In the course of a few years, however, we may hear of the natives getting sunstroke.

The numbers under famine relief continue to increase. Half a million people appeal for assistance. In Bombay province the totals are 353,247; Bombay native States, 41,462; Baroda, 25,649; Hyderabad, 13,913; Central India States, 4712; and Madras, 5165. Fortunately there is every hope of a satisfactory monsoon.

May 31st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Heaton Park.

As was anticipated a fortnight ago the Manchester City Council are repeating the performance which they indulged in over Trafford Park. On June 5th, at the monthly meeting of the council, the report of the Parks and Cemeteries Committee, which was adverse to the purchase of the park, was received for entry on the minutes and an amendment in favour of offering £210,000 was rejected by 44 to 28. The effect of this is that the resolution of the council passed in April last authorising the Parks Committee to consider the question of purchase still holds good, but that further negotiations, if any, are to come from the other side. It is pretty generally agreed that a mistake was made in letting Trafford Park slip and regret is felt, not only that an open space valuable from a hygienic standpoint was lost to the city, but that a good bargain for the ratepayers was thrown away. If Heaton Park could be kept as an open space without purchase it would be all very well, but that cannot be. The alternative to purchase is that before very long it will be utilised by the jerry-builder and covered by inferior houses, so that the smoke by which, according to some of the councillors, it is already affected will be considerably increased. It is time for the smoke nuisance in Manchester and Salford to be more vigorously dealt with, and with the increased use of gas and electricity there ought not to be much difficulty in freeing the city from much of the cloud that now overhangs it.

The Ancoats Explosions.

The sewer explosions in Ancoats on May 3rd were referred to by the deputy chairman of the Rivers Committee at the meeting of the Manchester City Council on June 5th. He said that they occurred on the introduction of a lighted candle into the bell mouth of a sewer, and that "a certain firm of manufacturers" had admitted that the emission of "a certain inflammable effluent" from their works into the sewer had caused the explosion. This effluent should have gone into a catchpit but got into the sewer "by accident." This "certain firm," the name of which was not revealed, had undertaken to pay for the damage done. Dr. Bishop said that he had been connected for seven years with a society which had been agitating against the pouring of noxious fluids into the sewers, and that it was humiliating to the council that it had taken no action in the matter until an explosion had occurred. In a letter to the papers the Rev. S. Nugent Perry, rector of St. Mark's, says that "for many years the people have been bitterly complaining to the corporation authorities of the foul smells and, in my opinion, dangerous gases which have forced their way into their dwellings from the sewers." It seems that the manholes have been fitted with iron plates which kept the gases from escaping into the open streets but transferred them into the houses where the nuisance was increased tenfold. In a report of the Sanitary Committee dated December, 1898, some of the sewers were ventilated into the chimney of some works, but "with regard to the Canal-street sewer it has not been thought advisable, owing to the highly-explosive nature of the liquids used, these being a source of great danger should a small quantity even get accidentally into the sewer." So that this danger has not been sprung suddenly on the city authorities. Mr. Perry also says that where the manholes were sealed up, "notwithstanding protests, there have been three explosions—viz., Oct. 3rd, 1898, when the manholes were blown open and the pavement disturbed in Sandal-street; on Whit-Sunday, 1900, in the dwelling-house, 267, Bradford-road, where the cellar-flags were blown up; and the recent one on May 3rd." Mr. Perry thinks that the explanation of the deputy chairman is poor consolation to those who are compelled to live in the neighbourhood. With this opinion most of us will agree. It is perhaps a difficult and delicate question as to whether the city authorities or "a certain firm of manufacturers" should be held as the more culpable. The one knows of a danger and applies a remedy which is not a remedy but merely diverts explosive forces from one place to another, while the firm of manufacturers allow their catchpit, about which we are told very little, to fail in its duty and explosions take place. There seems to be a failure of duty and of obligation on both sides. But corporations are said to have no souls, and the same proverb may possibly be applicable to "firms."

No Accommodation for Lunatics.

A case was brought forward at the meeting of the Chorlton Board of Guardians on June 7th which illustrates some of the difficulties that occur in dealing with lunatic patients. The workhouse master reported that he had refused admission to a man brought by the police, as they had at the present time no accommodation. "The man was insane, of suicidal tendencies, and dangerous to others." It was stated that the receiving room in the male lunatic ward was full and even overcrowded and that there were two padded rooms continually occupied. There were also three suicidal inmates and four delirium tremens patients under treatment. The chairman said that the Manchester Board of Guardians were not troubled with lunatics apprehended by the police. They were taken in charge, and as early as convenient they were taken to the police-court and certified by a medical man that they were lunatics and should be removed. The magistrates on the bench signed the order and the police took the patients to the asylum. The superintendent of an asylum must take the case in. He thought the Chorlton Board were entitled to the same treatment as other boards. With the asylums and the workhouses full, the provision of additional accommodation ought to be pushed on with more energy than seems at present to be expended on the matter.

Overcrowding of the Chorlton Union Workhouse.

At a recent meeting of the Chorlton Board of Guardians Mr. Jenner-Fust, an inspector of the Local Government Board, made some strong remarks on the overcrowded state of the workhouse. He said that no one could go through the wards without seeing that day-rooms were occupied as dormitories, beds put close together, and all the usual signs of the accommodation being insufficient. It was decided to provide additional accommodation in December, 1897, but for various reasons the extensions had not been carried out. One reason probably was the doubt as to the future of the imbeciles and epileptics, but legislation with respect to them had apparently been indefinitely postponed, so that it was all the more necessary for the guardians themselves to deal with the question of accommodation for the indoor poor. He recommended the plan of building two new pavilions so as to allow of future extension, to be occupied at first by the imbecile and epileptic patients, which would relieve the serious overcrowding of the main building, and of a new nurses' home. When the new asylum was built the pavilions would afford accommodation for the sick. It seems that there are still 90 children in the workhouse, and Mr. Jenner-Fust said that the guardians should direct their attention to the removal of the whole of them. He thought that they could hire premises which with slight alteration would enable them to accommodate the "ins and outs" who could not be transferred to Styal, and he also expressed the hope that the Joint Asylum Committee would "come to some definite decision in proceeding with the scheme for dealing with imbeciles and epileptics." As regards the extension of the Styal homes Dr. J. M. Rhodes referred to the delay of the Local Government Board in passing the plans. He did not know who was to blame but he wished the ratepayers to understand that the guardians were not in fault.

Manchester and Salford and a Small-pox Hospital.

At the meeting of the Salford Council on June 5th it was carried by the casting vote of the mayor that the Health Committee should reopen negotiations with the Manchester

Corporation in favour of the joint use of the proposed hospital for small-pox to be built in Drinkwater Park. Objection was made that Manchester patients would have to be taken through the streets of Salford at the risk of spreading sickness in the borough, but Dr. C. H. Tattersall had assured the proposer of the motion that there would not be the least danger. No scheme can be brought forward to which objection will not be raised, but if this one can be carried out it must prove an economy to both towns which should be pleasing to the ratepayers. It is curious to notice how the long-suffering ratepayers are always brought forward in opposition to every effort made for the improvement of the health and surroundings of a community, and how many deeds of narrow short-sightedness and unwisdom are done ostensibly for their benefit.

Stockport Water-supply.

The supply of water to Stockport has for a long time been somewhat anxiously considered. The corporation may therefore be congratulated on the preamble of the Bill to enable them to go to the Hayfield district for an additional supply, at an estimated cost of £800,000, having been proved.

June 18th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Sanitation at Weston-super-Mare.

IN many country districts and in small towns the sanitary officials are not encouraged by the local authorities under whom they serve to hunt up insanitary conditions; it is usually deemed sufficient for them to deal with such as are brought to their notice, but it is not often they receive definite instructions to neglect a duty cast upon them by an Order of the Local Government Board. It might be supposed, too, that a seaside resort would be the last place in which such neglect would be recognised, but the urban district council of Weston-super-Mare at their meeting on June 13th instructed the inspector of nuisances not to inspect and report upon the drainage or condition of empty or other houses unless a *bonâ-fide* nuisance exists or is alleged to exist, the council considering that it is no part of the duty of the sanitary authority to undertake work of a private nature which more properly belongs to the business of a sanitary engineer. It is generally held that systematic and regular inspection of all premises is the best mode not only of discovering nuisances but of preventing slight nuisances becoming grave dangers. The Weston-super-Mare District Council apparently think otherwise and need to be reminded of the Order of the Local Government Board dated March 23rd, 1891, Article 19 (3) of which, referring to the duties of an inspector of nuisances, requires that "he shall by inspection of the district both systematically at certain periods and at intervals as occasion may require keep himself informed in respect of the nuisances existing therein that require abatement." The members of the district council might also read with advantage Section 92 of the Public Health Act, 1875, which states that "it shall be the duty of every local authority to cause to be made from time to time inspection of their district with a view to ascertain what nuisances exist calling for abatement under the powers of this Act."

Electric Light at Pontypridd Workhouse.

The board of guardians of the Pontypridd Union have decided to light the workhouse at Pontypridd with electric light. The installation will consist of about 500 incandescent lamps generated from plant to be erected on the premises.

Overcrowding.

Although the census returns have shown the estimates of the population in several colliery districts in Glamorgan to have been placed too high there is undoubtedly in many localities a great deal of overcrowding of houses. A very flagrant instance is reported from Margam, where in a three-roomed house with two bedrooms there were living in addition to the father and mother and six children as many as five adult lodgers.

Admission of Visitors to Workhouses.

There has been some discussion recently at the meetings of the Tavistock (Devon) Board of Guardians in reference to the guardians allowing members of the Salvation Army to visit the sick wards of the workhouses, the medical officer holding that as he was responsible for the health of the inmates the right of allowing these visitors entrance should be vested in him. The Local Government Board were eventually appealed to on the matter, and at the meeting of the guardians held on June 14th a letter was read from that authority stating that the guardians could allow members of the Salvation Army or of any other religious denomination to visit the sick at the workhouse, but if the medical officer considered that the holding of services in, or the admission of visitors to, the workhouse would be detrimental to the health of the inmates his views should be attended to.

Isolation Hospital for Tiverton and District.

Tiverton (Devon) Isolation Hospital was formally opened on June 8th. The hospital is built on the block system and contains accommodation for 13 beds; the grounds have an extent of three acres. The cost of the building, including the land, has been £6300, and the maintenance is estimated at about £700 per annum.

June 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow University.

THE celebration of the four hundred and fiftieth anniversary of the foundation of Glasgow University has proved in every respect an unqualified success. The programme of events was certainly a somewhat crowded one, but the energy and organising ability of the University authorities proved fully equal to the occasion, and the lighter social festivities as well as the more severe academic exercises were carried through with a smoothness and completeness on which all concerned are to be heartily congratulated. Perhaps the most striking feature of an occasion which must necessarily remain a conspicuous landmark in the history of the University was the number and distinction of the delegates sent to convey congratulatory and sympathetic messages from sister universities and learned bodies in all parts of the world. The only academic event which in this respect can afford a parallel, at least in recent years, is the celebration of Lord Kelvin's jubilee as a professor some seven years ago. In addition to men of distinguished reputation sent from all parts of Great Britain and from India and the colonies representatives were present from the principal universities of the continent and the United States; two native Japanese professors presented a congratulatory address from the University of Tokyo, and a sympathetic message was announced from the Pope. To all these Glasgow extended a hospitable welcome and as an expression of her appreciation many of the foreign visitors were honoured by receiving the honorary LL.D. degree. The ceremony at which the delegates were presented followed the commemoration service in the Cathedral and was a very impressive occasion. It was introduced by an eloquent address delivered by Principal Story who read a message of congratulation received from His Majesty the King. The most prominent event of the second day's proceedings was the graduation ceremony, at which an address on James Watt was delivered by Lord Kelvin and one on Adam Smith by Professor Smart. Among those who received the honorary degree of LL.D. were most of the foreign delegates and a considerable number of representatives from the United Kingdom. Among the best-known names were those of Lord Balfour of Burleigh, the Marquis of Dufferin, Lord Strathcona, Lord Reay, Lord Glasgow, Lord Beauchamp, Major-General Sir Ian Hamilton, Lieutenant-General Sir Archibald Hunter, Sir William Selby Church, Sir William Mac Cormac, Sir James Reid, Sir Henry Roscoe, Professor Bayley Balfour, Professor Chiene, Professor Fraser (all three of Edinburgh), Professor Cunningham (Dublin), Professor Oliver Lodge (Birmingham), Principal John Yule Mackay (Dundee), Professor Ogston (Aberdeen), Principal Sir George Philipson (Durham), and Sir John Williams (University College, London). Mr. Carnegie received the same degree, and his advance to the platform not unnaturally was greeted with a special ovation. For the first time in its history the University included ladies among its honorary graduates, and the Principal, in the name of

the Senate, "capped" Mrs. James Campbell, Mrs. John Elder, Miss Emily Davies, and Miss Agnes Weston. The third day of the ceremonies included an oration on William Hunter by Professor John Young who traced Hunter's connexion with the University and delivered an eloquent appreciation of his work and of the services which he rendered to his *alma mater*, more especially in the gift of the museum which bears his name. The last academic event of the jubilee celebrations which remains to be chronicled was the opening of the new Botanical Institute which has been designed and equipped on a most elaborate scale. The ceremonies in connexion with this attracted much interest. Sir Joseph Hooker formally declared the institute open and in doing so gave an account of the life and work of his father who was Professor of Botany in the University of Glasgow for a period of 20 years. The vote of thanks to Sir Joseph Hooker was proposed by Lord Lister. Speeches were also delivered by Sir William Thistleton Dyer and by Professor Bayley Balfour. The social features of the celebrations were both numerous and varied. They included conversaziones, garden parties, a banquet, a students' ball, and a gaudeamus, and all of these were marked by great vivacity and success. The corporation entered heartily into the University scheme and gave a banquet in honour of the University and its official guests, and the University, not to be outdone in courtesy, made the Lord Provost an honorary LL.D. Apart from the sentimental value and interest of all these proceedings they may be expected to attract attention to the wants of the University and to its attempt to raise a large sum for extending its laboratory and research equipment. Some evidence of this is found in the fact that during the week the Principal has received one cheque for £5000 and a second one for £2000. Mr. Carnegie's munificent benefaction will do much for the universities and for Scotland, but it will not satisfy every need. Instead of checking the generosity of others it is hoped rather that it will provide the proverbial force of a good example.

Presentation of a Statue of Queen Victoria.

At a meeting of the Town Council of Paisley on April 24th 1900, ex-Provost Clerk stated that a gentleman who wished his name to be withheld had offered to present the town with a statue of Queen Victoria. The council unanimously accepted the offer and the central site of the William Dunn-square was granted for its erection. Much speculation took place as to the identity of the donor, but it became known only quite lately that he was Dr. John Baird Hunter of Paisley. On June 11th the statue was unveiled by Miss Hunter, a sister of the donor, in the presence of a large and enthusiastic assembly. Dr. Hunter then delivered an address, after which Provost Wilson spoke in eulogistic terms of the public spirit which actuated many present and former inhabitants of Paisley and concluded by formally accepting the gift in the name of the citizens. A meeting was afterwards held in the town hall, at which Dr. Hunter presided and various speeches were made. The statue is of bronze on a square granite pedestal, the height of the pedestal being 7 feet and that of the statue 6 feet 10 inches. It represents Her Majesty as at the date of the Diamond Jubilee. The inscription on the front is, "Victoria Dei Gratia Regina Imperatrix Praestantissima, 1837–1901."

Public Baths, Aberdeen.

The city architect has been ordered to report as to the cost of putting into order for the busy season the swimming pond and some of the private baths at the foot of Constitution-street in the premises of the Aberdeen Swimming Bath Company, lately acquired chiefly for the Corporation Tramways Department.

Proposed Public Sanatorium for Aberdeen.

At the last meeting of the Aberdeen United Trades Council the following motion was unanimously adopted: "Considering the fact that nearly one-fifth of all the deaths in this city are caused by tubercular disease, and that professional opinion is unanimous in declaring that when taken in its early stages it is curable, this council agrees to approach the town council with the view of asking them to consider the advisability of erecting in the country a hospital for the open-air curative treatment of consumption." The chairman estimated the cost of 10 acres of land at £1000, and of providing buildings for 160 patients annually at £6000, and the yearly charge at £3400, equal to about 1½*d.* per pound additional on the rates. It was also resolved that a request should be made that a deputation should be heard by the Corporation's Public Health Committee.

University of Aberdeen.

Mr. Pittendreigh Macgillivray, A.R.S.A., Edinburgh, who has been commissioned to execute the proposed mural medallion portrait of the late Principal Sir W. D. Geddes for King's College, is to visit Aberdeen and to recommend a suitable position.—Aberdeen University sports were held on June 12th and resulted in a popular and successful gathering.

Small-pox at Peterhead.

A mild case of small-pox is being treated in hospital and no danger of the disease spreading is entertained.

Unhealthy Area in Aberdeen.

The old Bursars' Hotel and other buildings, Nos. 59 to 62, Exchequer-row, included under the Provisional Order for dealing with the unhealthy area in that quarter, are to be removed.

Another new Public Park for Aberdeen.

Aberdeen's city chamberlain has been instructed by the town council's Parks Committee to negotiate with the Northern Lighthouse Commissioners, owners of Girdleness Lighthouse, as to the marking out of the boundary line of a new public park, near the bay of Nigg, for the use of the people of the municipal ward of Torry, on the south side of the River Dee. The new park is to be under the charge of the superintendent of Duthie Park and part of the ground will be at once ploughed up and sown with grass seed.

June 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The National Association for the Prevention of Tuberculosis.

AT a meeting of the executive committee of the National Association for the Prevention of Tuberculosis held on June 5th at the Royal College of Physicians of Ireland a resolution was adopted unanimously in favour of bringing before the notice of the Commissioners of National Education the advisability of appointing lecturers to give instruction on the prevention of consumption to the students in the various training colleges for teachers in Dublin. Sir Charles Cameron's report as to the working of the voluntary system of notification adopted by the Dublin Corporation stated that since October last 65 cases of phthisis had been notified, chiefly by the dispensary medical officers, but that in the majority of cases the patients' friends refused to allow the infected rooms to be dealt with. In all cases application for liberty to disinfect was made, but in only about one-fourth was it acceded to. The proper remedy, Sir Charles Cameron said, was the conferring upon the health authorities of compulsory powers of disinfection and the inclusion of tuberculosis in the list of diseases which must be notified, but until that power was obtained the public health departments of the city and the two outlying townships of Pembroke and Rathmines were prepared to carry out the work of disinfection free of cost. The Marquis of Dufferin and Ava presided at the last meeting of the Belfast branch of the society and made some interesting observations. The mortality, he said, from consumption in Ulster, which otherwise was as healthy a region as any in the United Kingdom, was double that of Lancashire and quadruple that of the healthiest counties of Great Britain.

Irish Medical Association.

The sixty-second annual meeting of this association was held in the Prince's Restaurant, Belfast, on June 11th. The incoming President, Professor Whitla, in his address, after thanking the members for electing him and welcoming them to Belfast, referred to the objects and aims of the association. He dwelt upon the grievances of the Irish dispensary medical officers—superannuation, abuse of the ticket system, locum-tenents, and annual holidays—which the association had tried to remedy, as well as upon such points as the rights of factory and police surgeons, consultants' fees, sanitary prosecutions, lunacy fees, &c. He regretted that of 800 Poor-law medical officers less than one-half were members of the association and that of the 2500 medical men residing in Ireland only about one-fourth were enrolled. The annual report showed that the

council had held five meetings and the committee of council 38 meetings during the year. 44 members had been elected. £158 had been expended in law costs during the year, the greater part being incurred in the effort to secure the rights of medical officers to four weeks' vacation. On the motion of Mr. S. B. Coates (Belfast), seconded by Mr. J. W. Olpherts (Downpatrick), the report and statement of accounts were adopted. Sir Charles Cameron moved, and Dr. A. H. Benson (Dublin) seconded, the following motion which was passed:—

That the council be instructed to take such proceedings as may seem advisable in support of the Poor-law Officers' Superannuation Bill now before Parliament.

On the motion of Mr. T. Myles (President of the Royal College of Surgeons in Ireland), seconded by Dr. J. B. Story (Dublin), it was agreed:—

That as the duties of Poor-law medical officers require ceaseless attention at all hours, day and night, it is in the interest of the sick poor as well as of the medical officers that a period of needful rest be provided, and that the Council be instructed to continue their exertions to have Article 23 of the Dispensary Regulations so amended as to secure to medical officers their reasonable demand for an annual vacation.

Dr. L. Kidd (Enniskillen) moved, Dr. S. Agnew (Lurgan) seconded, and it was passed:—

That the Council be requested to consider the advisability of revising the articles of association generally, and especially with regard to the formation of branches and making the association a defensive one.

On the motion of Mr. O'C. J. Delahoyde (Dublin), seconded by Mr. J. Taylor (Tandragee), it was carried—

That this meeting declares that the salaries at present paid to the dispensary and workhouse medical officers are inadequate and totally disproportionate to the labour involved in the onerous and important duties they have to discharge, and therefore that the council be instructed to take this question into immediate consideration with a view of formulating a scheme whereby a minimum salary, rising by periodical increments to a certain maximum, shall be fixed for all Poor-law medical appointments, and that copies of this resolution be sent to the different licensing bodies and their coöperation requested to attain its object.

A vote of thanks to the retiring President (Sir P. C. Smyly) and to the press concluded the meeting, after which the visitors were shown over the great shipbuilding yard of Harland and Wolff. Subsequently they attended the garden party given by the Lord Mayor and Lady Mayoress to welcome home the Ulster Yeomen. In the evening the annual dinner was held in the Prince's Restaurant, when Professor Whitla, the President, occupied the chair. In addition to a large number of members the following guests were present: The Lord Mayor, the High Sheriff, Sir James Henderson, D.L., Sir R. J. McConnell, Bart., D.L., Sir Charles Cameron, Professor Byers (President of the North of Ireland Branch of the British Medical Association), Professor W. H. Thompson (President of the Ulster Medical Society), Lieutenant-Colonel Thomsett, P.M.O., R.A.M.C., Mr. C. J. Clibborn (Local Government Board inspector), Mr. H. G. Croly (Dublin), Mr. T. Myles, Mr. R. Agnew (Local Government Board inspector), Mr. J. R. Fisher (editor of the *Northern Whig*), and Mr. A. McMonagle (editor of the *Ulster Echo*). After a very well-served dinner the following toasts were given. "The King" and "The Queen, the Duke and Duchess of Cornwall, and other members of the Royal Family," were proposed by the President. "The Lord Mayor and Corporation of the City of Belfast" was proposed by the Chairman, to which Sir Daniel Dixon, D.L. (the Lord Mayor), replied. Sir James Henderson, D.L., gave "The Navy and Army," to which Lieutenant-Colonel Thomsett replied. Professor J. A. Lindsay proposed "The Medical Corporations," to which Mr. Myles responded. The toast of "The Irish Medical Association," coupled with the health of the President, was given by Professor Byers (President of the North of Ireland Branch of the British Medical Association), to which Professor Whitla replied. Sir Charles Cameron proposed "The Press," which was acknowledged by Mr. McMonagle and Mr. Langford Symes (editor of the Journal of the Association). Dr. McLaughlin proposed "The Health of the Local Government Board," to which Mr. C. J. Clibborn replied. "The Health of the Dinner Committee" was proposed by the chairman, and Dr. J. J. Robb, Mr. Coates, Dr. J. Nelson, Dr. H. L. McKisack, and Dr. J. Colville responded. During the evening selections were rendered by a band and vocal items were given by Mr. D. Glasgow and Mr. W. Livingstone. Prior to the commencement of the business meeting those present were hospitably entertained to light refreshments by the new President (Professor Whitla).

Sanitary Condition of Portadown.

Mr. C. J. Clibborn, Local Government Board inspector, in his report in reference to his recent inspection of Portadown, urges the necessity on the part of the urban council that they should no longer delay to take steps to adopt a more perfect system of sewerage. Stone-built sewers should be replaced by pipe sewers so as to prevent the soakage into the surrounding soil of deleterious matter. A consultant engineer should advise as to the best possible scheme to adopt to have the sewage purified before its discharge into the rivers or as to the adoption of some system of septic tanks for the final disposal of sewage. A supply of good drinking-water is urgently required. The condition of insanitary premises should be remedied and houses which are unfit for human habitation should be dealt with, and on this subject the medical officer of health should be asked to give a detailed report. The house drains connecting with the main sewers should be fitted with modern disconnecting traps and the back yards should be better paved so as to prevent soakage of deleterious matter into the surrounding soil. The Portadown Urban Council is to consider carefully this important report which is so condemnatory of the sanitary state of that thriving town.

The Irish Poor-law System.

At a meeting of the Armagh County Council on June 13th, the following motion, proposed by Dr. E. Magennis, J.P., was unanimously passed:—

That in the opinion of the County Council of Armagh the time has now come when the Government should appoint a Commission to inquire into the working of the Poor-law system in Ireland with a view to introduce some other method of dealing with the poor, or to make such changes in the present system as will lessen the very heavy expenditure imposed on the ratepayers and be more in accordance with the wishes of the people.

The evils of the present system, which everyone must admit, were fully pointed out by Dr. Magennis.

The Midwife Question at Caledon.

In THE LANCET of June 1st, p. 1574, appeared a reference to a sworn inquiry by the Local Government Board of Ireland in regard to an extraordinary verdict of a local jury condemning Mr. R. D. Patterson, the medical officer of the Caledon and Ballymagran district, for "neglect of duty" in the case of a woman who died from puerperal septicæmia. The result of this sworn inquiry, brought about by a public meeting held in Caledon to protest against the verdict and demanding an investigation of the circumstances, is "that he [the medical officer] was not guilty of any neglect of duty in connexion with this case." The life of a dispensary medical officer in Ireland is truly an unenviable one, but fortunately, as in this case, there is occasionally a fair public opinion, and in every circumstance the Local Government Board still exists as a just tribunal to which in all cases there is the right of appeal. Mr. R. D. Patterson is entitled to the full sympathy and congratulation of his private and professional friends on his triumph in this case.

The Belfast Hospital for Sick Children.

Dr. W. C. Steen having resigned the post of assistant physician to the Belfast Hospital for Sick Children, Dr. R. M. Beatty has been appointed in his place.

Cork South Charitable Infirmary: Introduction of Nuns.

Some weeks ago the matron of the Cork South Infirmary resigned owing to ill-health and some of the Roman Catholic governors considered that members of a community of nuns should be introduced, one of whom should act as matron. The proposal came up for consideration at two meetings of the board of the institution and gave rise to considerable discussion. Though strong views were held on both sides the debates were conducted with decorum. The Roman Catholic view put forward by various speakers was as follows: that as 95 per cent. of the patients were Roman Catholics it was desirable to have religious consolation administered to them by nuns whilst due provision would be made for the Protestant patients; that the presence of nuns in the Cork Union Hospital had improved the moral tone of the inmates there; that the nun whom it was proposed to appoint as matron had already acted as a nurse at the union hospital and had received high commendation from the medical staff attached to that institution; that the services of four nuns, one of them to act as matron, could be had for £30 a year each without rations; and that the salary and rations of the last matron came to about the same amount—viz., £120 a

year. On the other hand, the Protestant governors expressed the opinion that the matron should be one who had been specially trained in some large general hospital; that if a nun were appointed as matron Protestant parents could not be expected to send their daughters there to be trained as nurses; that no complaints had been made by the patients as to their treatment; that the spiritual wants of the patients were already freely provided for; that there were several Protestant subscribers; and that a portion of that support might be withdrawn. Eventually a vote was taken and four nuns of the Mercy order were selected, one to act as matron and three as assistants.

June 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Assassination of a Director of the School of Pharmacy by a Pharmaceutical Chemist.

A PAINFUL incident recently occurred at Nancy which has given rise to lively emotion among the various professors of the faculties. A pharmaceutical chemist, M. R. Four, killed M. Bleicher, the Director of the Higher School of Pharmacy. The facts of the tragedy are as follows. The Pharmacies Commission recently seized a sample of quinine from M. Four's establishment. On June 8th that gentleman, who was one of the best known pharmaceutical chemists in the town, received information that the result of the analysis of his quinine would be sent to the public prosecutor. This news made him quite silly. At 2 P.M. he took a revolver of large calibre, went off to the Faculty, and asked to see the Director. M. Bleicher received him, whereupon M. Four asked whether it was true that the result of the analysis was to be sent to the public prosecutor. M. Bleicher said "Yes," and M. Four promptly drew his revolver and fired at the Director who fell shot through the heart. On seeing the corpse at his feet M. Four shot himself through the head, expiring just as some of the lecturers who had heard the shots came rushing into the private room. M. Bleicher was 63 years of age and had only held the Directorship for one year. M. Four was only 45 years of age. At the outside he would only have had to pay a small fine or have been reprimanded by the authorities for having had on his premises quinine bought in bulk which was not up to the regulation alkaloidal strength.

The Blood-coagulating Principle of a Secretion of the Skin.

At the meeting of the Society of Biology held on June 1st M. Milian laid before the members the explanation of a fact which he had reported at the previous meeting—namely, the increased coagulability of the blood at the end of a hæmorrhage. It depends upon the secretion of a coagulating substance by the skin. The cells containing this substance are laid open by the puncture and thus allow their contents to escape. A demonstrative proof of this fact is afforded by ascitic fluid, which, although it does not coagulate spontaneously, yet does so rapidly on the addition of a small quantity of watery extract of skin. From these facts it would appear that the technique employed for clinical experiments upon the congulability of blood is coarse and not to be depended upon. The results are in terms of the coagulating power of the skin and not in those of the coagulability of the blood. In hæmorrhagic diseases there exists together with the blood defect a tissue defect as well which may possibly be improved by appropriate serum treatment (*opothérapic*). Hæmophilia especially may be divided into two classes, a local "tissue hæmophilia," which is by far the kind most frequently met with, and a general hæmophilia having its origin in some condition of the blood.

Reforms in the Thesis for the Degree of Doctor.

Professor Pinard recently laid before the Faculty of Medicine a very interesting report upon some proposed reforms in the present system of presenting theses for the degree of doctor. His proposals are: 1. That the principle of the thesis should be maintained. 2. Every candidate offering a thesis shall choose his president and must also be accepted by him. The candidate must also have arrived at or beyond the sixteenth term from his matriculation. 3. The thesis which the candidate for the degree of doctor shall sustain must be a dissertation upon some subject relative to medical science. 4. The dissertation, whether printed or type-written, must be in the president's hands at least one month before the date appointed for the reading and defence of the thesis. 5. The candidate shall deposit six copies of his dissertation with the faculty 15 days before the date of reading and defence. 6. The jury shall, abiding by the accustomed forms for the defence of a thesis, decide (*a*) whether the candidate's thesis shall be accepted; and (*b*) whether the thesis is worthy of being printed among the academical publications, in which latter case the candidate must supply the faculty with 200 printed copies. If the jury decide that the thesis is not worth publishing it shall remain among the archives of the faculty. It will be seen from these proposals that the principle of the thesis is maintained, but that certain restrictions are introduced which give an opportunity for discussion, not only at the Council of the Faculty, but also by the university and by the Minister of Public Instruction.

Absinthe Poison and other Toxic Essences.

At the meeting of the Academy of Medicine held on June 11th M. Laborde called to mind the baleful effects of absinthe and similar toxic essences. He asked that the Committee should consider the following terms of reference—(1) that without delay, in conformity with the motion put forward by Parliament, the committee in pursuance of its powers, should define those liqueurs, *apéritifs*, and drinks containing such essences as are most harmful to the public health, with a view to putting a stop to their manufacture, their distribution, and their sale; (2) that the study of the subject should be referred to the Committee on alcoholism; and (3) that any resolution which the Academy should pass after having heard the report of the Committee should be sent to the public authorities and to Parliament.

June 18th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

A Grave-robbing Case.

IN February last a third-year student of the medical faculty of Queen's University, Kingston, was arrested for having in his possession the body of a woman who had been recently buried. He was indicted on two charges: first that of having opened the grave, and secondly, for indecently interfering with a dead body. It was presumed that the body was for dissecting purposes, though this sort of material is not by any means a scarce article in the province of Ontario. On April 22nd he came up for trial before the judge of the county court of Peterborough, within which jurisdiction the alleged offence had been committed. On the first count the prosecution failed to prove that he had opened the grave, so the prisoner was acquitted on that charge. On the charge of indecently interfering with a dead body he was adjudged guilty and fined $200, or in default of the payment of the same to spend one year in gaol. For this the Ontario law provides five years in gaol or a fine at the discretion of the presiding judge. The previous good character of the defendant saved him from the heavier penalty of his act. This is said to be the first case of its kind to come before the Ontario courts and it is, therefore, interesting.

Honour for Dr. G. S. Ryerson.

The profession in Toronto and throughout Canada feel eminently gratified at the distinction accorded to Surgeon-Lieutenant-Colonel George Stirling Ryerson who has recently been made a Knight of Grace of the Order of St. John of Jerusalem in recognition of his distinguished and able services while Canadian Red Cross Commissioner to South Africa.

Canadian Nurses' Association.

During the session of the Dominion Parliament which has just come to a close one of the measures before the House sought to incorporate the Canadian Nurses' Association. Opposition developed against the Bill when it was first presented to the House Private Bills Committee. It was thought to discriminate against many of the smaller hospitals, including those in the West, and also against English and Welsh nurses who now carried on their profession in the Canadian North-West Territories. The Bill provided that a majority of the examining board should consist of physicians. The opposition, however, was so

strong against the incorporation of the association that a motion to postpone it for six months was carried successfully. It is expected that the Bill will be re-introduced in the next session.

Sir William Hingston Honoured.

On May 6th there was celebrated at the Hôtel Dieu Hospital, Montreal, the fortieth anniversary of Sir William Hingston's connexion with this hospital as a surgeon. In this function his *confrères* on the staff, the sisters, the students, and the patients of the hospital all took part. The ceremonies began in the morning by the celebration of Mass in the chapel by Archbishop Bruchesi, after which the surgeons of the Hôtel Dieu presented Sir William Hingston with an address and an urn of great value. The medical students of Laval University were assembled in one of the operating-rooms, to which the party then repaired. Here another address was presented by the students to their esteemed professor, Lady Hingston at the same time being the recipient of a magnificent bouquet of choice flowers. By the sisters of the institution Sir William Hingston was presented with some relics which had been brought over from France over 200 years ago by Mdlle. Mance. In one of the large wards the patients were assembled, and in their behalf Dr. St. Jacques, the superintendent, addressed the distinguished surgeon, thanking him for his many years of professional labour and for his long service in connexion with the hospital. To all these tokens of appreciation he replied most feelingly in his usual happy and felicitous manner. Sir William Hingston has now reached his seventy-third year and is still actively engaged in the practice of his profession. His son (Dr. Donald Hingston) has been but recently appointed superintendent of the Hôtel Dieu Hospital in succession to Dr. St. Jacques who has resigned.

Bishop's Medical College, Montreal.

Recently a number of changes has been made in the teaching staff of this medical college and several new appointments have been made. Dr. F. W. Campbell will continue to act as dean and with him will be associated Dr. J. B. McCormell as vice-dean. In addition to his regular course of lectures in medicine and neurology Dr. Campbell will give a special course in insurance law, and the chair in medicine will be further assisted by Dr. J. W. Deeks, lecturer on internal medicine; Dr. A. J. Richer, specialist in pulmonary diseases; and Dr. W. Grant Stewart. Dr. Louis Laberge, health officer of Montreal, will take charge of the department of hygiene; while Dr. W. G. Reilly has been appointed to the chair of anatomy.

Western Hospital, Montreal.

The annual meeting of the Western Hospital, Montreal, was held in the latter part of May, when very satisfactory reports were received and adopted. The past year has been the most successful in the history of this hospital. In addition to lowering the debt from $10,000 to $8000 great improvements have been made in the buildings and new operating, instrument, and anæsthetic rooms have been fitted up with electricity and all the latest improvements. The report of the treasurer showed that the receipts had been $9381.91, and the expenditure $8944.79. The net assets of the hospital amounted to $99,458. The medical report, which was read by Dr. George Fisk, showed that in the outdoor department there had been 3500 consultations as compared with 3457 for the previous year. In the indoor department 396 patients were treated as compared with 380 for the previous year; there had been 24 deaths, or 6 per cent. If the eight who died within 48 hours of their admission were deducted the death-rate would only be 4 per cent. The average daily cost of all patients was 90 cents; of the public patients alone, 45 cents.

Montreal General Hospital.

Towards the end of May the governors of the Montreal General Hospital held their annual meeting, and, as usual, a deficit was reported. The General Hospital is now in arrears to the extent of some $25,000, having gone behind to the extent of $8000 within the past year. It has been decided to make a charge on and after June 1st of 10 cents a bottle for medicine in the outdoor departments for the first week and 5 cents thereafter. Dr. John McCrae was appointed resident assistant pathologist, and Dr. Von Eberts, the medical superintendent, has had his engagement extended for another year. His staff will consist of 10 house surgeons, with a lady superintendent and 70 nurses. Dr. F. G. Finley, the secretary, reported that the expenditure had reached the sum of $84,280, and that the income had been only $75,994. The report of the medical work was as follows:—The total number of indoor patients treated to a conclusion was 2823, a decrease of one from the previous year. Of these, 175 remained from 1899–1900, and 2822 were admitted during the year. In the hospital at the end of the year there remained 154 patients. There were discharged 2573 and there died in the hospital 250. Of these 250 deaths 105 occurred within three days of the admission of the patients. The death-rate, therefore, had been 8·85 per cent., or excluding the 105 patients dying within three days of their admission, 5·12 per cent. The average cost per patient per day had been $1.37 as compared with $1.35 for the preceding 12 months.

June 1st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Institute for Medical Research in the United States.

THE important announcement has just been made public that Mr. John D. Rockefeller has given $200,000 (£40,000) to found an institution to be called "The Rockefeller Institution for Medical Research." This sum, it is said, is only to be regarded as a preliminary gift, not intended as an endowment, but to be expended as the need may arise. A building will not be erected at any rate for some considerable time; work, however, will be commenced at once. The first investigations undertaken by those connected with the institution will be to coöperate with the New York Board of Health in studying the milk-supply and the contaminated article as a source of danger. In the autumn work strictly concerned with original research will be commenced. This work is to be carried on by the most prominent scientific men connected with the leading medical schools of the country, including Harvard, Johns Hopkins, University of Michigan, Columbia, and several others. The Board of the Rockefeller Institute will direct and control these investigations. The directors of the institute comprise the following well-known names:—President, Dr. W. H. Welch, professor of pathology, Johns Hopkins University; vice-president, Dr. T. Mitchell Prudden, professor of pathology at Columbia University; secretary, Dr. Emmett Holt, clinical professor of diseases of children at Columbia University; and treasurer, Dr. C. A. Herter, professor of pathological chemistry at the New York University and Bellevue Medical College. The other directors are Dr. Theobald Smith, professor of comparative pathology at Harvard; Dr. H. M. Biggs, director of laboratories, New York Board of Health; and Dr. Simon Flexner, professor of pathology, University of Pennsylvania. These gentlemen have advised Mr. Rockefeller as to the best methods of starting the institution and have issued the following statement regarding it: "Through the generosity of Mr. John D. Rockefeller an institution has been established to be known as the Rockefeller Institute for Medical Research. The purpose of the foundation, as the name implies, is to furnish facilities for original investigation, particularly in such problems in medicine and hygiene as have practical bearing upon the prevention and treatment of disease. The home of the institute will be in New York city, although, as will be seen from the make-up of the board of directors, medical men from neighbouring cities will share in its management. It is not intended to build at once, but with the funds placed at the disposal of the board work will be begun under its direction in several different places. The immediate aims of the board are twofold. First, to shape the lines of work along which the institute may wisely develop, both in contributing to knowledge and in the application of existing knowledge to humane ends. When this is done it is felt that such local habitation as the future of the institute shall require can be more wisely planned. It is understood that the buildings and equipment adequate to the wide scope of the institute and worthy of the humanitarian and scientific aims of the foundation will in due time receive consideration. The potential value of an institution of this kind and under such auspices in medical science and in the interests of humanity can hardly be over-estimated." There are three features in regard to the project which should be an excellent augury of its success. These are that undoubtedly money will not be lacking; that the board of directors is composed of some of the foremost scientific men of the United States, whose presence on the board alone should be

a guarantee that the work will be carried out thoroughly; and lastly, that the work has been begun in the right spirit. There has been no loud flourish of trumpets, but it has been wisely determined to proceed upon conservative lines, and when after a sufficient trial the directors have convinced themselves of the most efficient methods of developing the institution to put these methods into practice. Original research has long lagged in the United States, but it would appear that Mr. Rockefeller's gift may mark a new epoch in this branch of science.

Novel Sanatorium in Chicago.

A sanatorium is about to be constructed in Chicago upon a wholly new principle. The medical men in that go-ahead city have for some time been dissatisfied with the means of accommodation which Chicago offers to patients from a distance who are desirous of placing themselves under the charge of practitioners there. There are many objections both on the part of physicians and patients to the large general hospitals and it seems that there are no private hospitals in Chicago. In consequence of this condition of affairs those who wish to be treated in the city are compelled to betake themselves to large hotels or to apartments. The big hotels are too noisy and apartments have, as a rule, some drawbacks. Besides, friends or relatives of the sick have not always been able to secure quarters near the sick bed. To remedy this unfortunate situation it is stated that five physicians and surgeons of Chicago are preparing to build a large private hotel and sanatorium to cost $400,000 (£80,000). This combination of hotel and sanatorium is, it may be imagined, the first time that such a plan has been put into execution, and it is yet another tribute to the practical versatility of the Western American's brain.

Montefiore Sanatorium for Consumptives.

On May 30th a country sanatorium for consumptives in connexion with the Montefiore Home in New York city, a Jewish but non-sectarian institution, was formally opened. The sanatorium is situated at Bedford, a few miles from New York, and is constructed upon the most approved model for such institutions, while the treatment followed therein will be in accordance with the most modern methods. Vice-president Roosevelt and the Bishop of New York were the principal guests of the opening ceremony, each of whom made eloquent speeches. Some of the bishop's remarks were particularly to the point. He said in effect, "What are the causes of the misery represented here? It exists under the conditions under which men earn their bread. They pass their sleeping hours in homes that are unfit for human beings. Better the condition of the wage-earner and the home where he lives and you will have begun to deal with the great problem of civilisation. Then you will find a solution. Follow the trend of consumption where it was bred and disseminated. An ounce of prevention will be worth many pounds of cure." It was stated that the Montefiore homes in New York and Bedford give shelter and medical aid to 450 patients, to which the directors expect to add accommodation for 150 more unfortunates in the future. It was also stated that the two charities represent nearly a million dollars (£200,000) of capital and that the debt is only $50,000 (£10,000).

June 10th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Royal Visit.

THE visit of their Royal Highnesses the Duke and Duchess of Cornwall to Australia to open the first Parliament of the new Commonwealth is of all-absorbing interest just now, to the exclusion of all other affairs. The work of the ordinary medical practitioner in Melbourne is greatly interfered with owing to the stoppage of vehicular traffic in the streets and the enormous crowds that throng them on foot. Among the recipients of honours in connexion with the Royal visit is Dr. James Graham, mayor of Sydney, who is to be knighted. His career has already been referred to in these columns when announcing his election as mayor.

Prince Alfred Hospital, Sydney.

Reference has previously been made to the necessity for enlarging the Prince Alfred Hospital, and it has now been determined to erect new pavilions as a memorial to Queen Victoria. A public meeting was recently held to appeal to the public for subscriptions. The amount required over and above the amount given by the Government is £15,000, and £1600 was promised at the meeting. Dr. Charles Mackellar contributed £1000, with the stipulation that a ward should be provided for the treatment of soldiers and named in memory of his son who was killed in action in South Africa. The foundation-stone of the new buildings will be laid by the Duke of Cornwall.

Children's Hospital, Sydney.

The annual meeting of the Sydney Hospital for Sick Children was held on April 20th. The annual report showed that during the year 1900 there were admitted to the general hospital 421 patients, making, with the 42 remaining from the previous year, a total of 463. Of this number 284 patients were discharged cured, 68 were relieved, 25 were discharged unrelieved, 45 died, and on Dec. 31st there were 41 remaining in the institution. In the diphtheria cottage 117 were admitted, making, with nine remaining from the previous year, a total of 126 under treatment. Of these 112 were discharged cured, nine died, and five remained under treatment. In connexion with out-patients there were 9980 attendances of 2245 patients. In comparison with the statistics of the previous year these returns show a moderate increase. The death-rate in the general hospital was 10·6 per cent., as compared with 10·8 in the previous year. In the diphtheria cottage the death-rate was 7·43 per cent., as compared with 6·6 per cent. in the previous year. The out-patients' department showed an increase on last year of 544 attendances, but a decrease in the number of patients. The President (Mr. Justice Stephen) alluded to the pressing necessity for a new building and explained the difficulties about the site, to which reference was recently made in these columns. The medical report stated that owing to the want of accommodation in the present buildings 60 or 70 children with their parents or guardians were huddled together in the waiting hall, often some of them suffering from infectious diseases. One death during the year could be directly attributed to the insanitary condition of the building. It was also pointed out that a convalescent home in connexion with the hospital was greatly needed.

Sydney Hospital.

At the last monthly meeting of the board of directors of the Sydney Hospital Dr. W. Carnac Wilkinson resigned his position on the staff, as he had been appointed lecturer on medicine at the Sydney University. It was decided to thank Dr. Wilkinson for his past services. The following were re-appointed to their respective positions on the medical and surgical staff for a further period of four years:—Dr. T. Dixson, Dr. Fiaschi, Dr. W. H. Crago, Dr. J. McD. Gill, and Dr. Roland J. Pope. Dr. P. R. Kenna was appointed assistant aural surgeon.

St. Vincent's Hospital, Melbourne.

The annual meeting of St. Vincent's Hospital, Melbourne, was held on May 1st and was attended by an audience which completely filled the town hall and which expressed the most enthusiastic appreciation of the good work done by the hospital, £1000 being subscribed towards the building fund at the meeting. The number of patients treated during the year exceeded 10,000, an increase of over 1000 on the previous year. Reference was made to the exceptionally economic manner in which the institution was managed, the amount for wages being relatively insignificant.

Melbourne Hospital.

During the past year a little difficulty has arisen at the Melbourne Hospital with reference to the status and powers of the resident medical officers. On the election of the new resident staff for the present year they were called before the committee with reference to those difficulties. The newly appointed staff asked for precise information as to their authority with regard to ordering visitors, and especially ministers of religion, out of the hospital wards, and as to the arrangements to be made for dining. On the committee explaining their proposals the staff declined to accept them and resigned in a body. Subsequently a compromise was arranged and the staff resumed their respective duties. The position of resident medical officer has steadily declined in status during the last 20 years from a well-paid and responsible post to one with no salary and very little responsibility, little better than that of a resident dressership, and, indeed, apparently regarded as such by the

committee who in the recent differences contemptuously referred to the members of the staff as the "students." The actual students also have a complaint against the committee for exacting extra fees for hospital attendance and also against the honorary staff for having, as is alleged, increased the fees charged for clinical instruction. The mode of collecting the fees has been altered and the scale revised. Formerly the method was somewhat complicated. Students paid certain fees to the University for clinical lectures and tutorial instruction to be given by members of the staff at the Melbourne Hospital and the Prince Alfred Hospital, and the University paid a certain definite sum annually to the respective staffs irrespectively of the amount received from the students, who also paid certain fees for hospital attendance to the staff direct and to the hospital. Last year the University council decided that all fees for clinical instruction should be paid direct by the students to the staff and the University would have nothing to do with the matter. The staff accordingly drew up a scale of fees, calculated on the amounts previously received from the University and the number of students receiving clinical instruction. At the same time the hospital committee increased the amount of fees payable to the hospital. The total increase in hospital fees for the course under the present arrangement is stated to be £36 and the total amount of fees of all kinds paid for the medical course is £190. The total fees at Sydney are stated to be £170 and at Adelaide £184, and it is maintained that the higher rate at Melbourne will compel students to go to other schools.

Sydney University.

Dr. E. J. Jenkins has resigned the position of medical tutor at the Sydney University and Dr. G. E. Rennie has been appointed to the vacancy.

Sir T. N. Fitz-Gerald, K.C.B.

The profession in Australia are very pleased at the honour of Knight Commander of the Bath conferred on Sir T. N. Fitz-Gerald of Melbourne for his services in the South African campaign as consulting surgeon. The recipient was specially mentioned in Lord Roberts's despatches.

Death of Dr. James Eddington Jefferies.

Much regret has been felt at the news of the death of Dr. Eddington Jefferies, late of Newtown, New South Wales, where he had practised for over 14 years. Dr. Jefferies was held in high regard both for his professional skill and his personal qualities. He was a well-known connoisseur in art and had a fine collection of pictures and china. His father is the Rev. Dr. Jefferies, formerly an eminent clergyman in Sydney, and now of Adelaide.

May 10th.

Obituary.

EDMUND BOURJONVAL DE LA CHEROIS, M.D. DUB.

DR. E. B. DE LA CHEROIS met with his death as the result of a carriage accident at Sandford, Somerset, where he was on a visit to his brother. The deceased, after a course of study at Trinity College, Dublin, took the M.D. degree in 1890. Previously to his college career he studied at the Armagh School. The death of Dr. De la Cherois is much felt amongst the large circle of friends and acquaintances which he had formed in a practice extending over some eight years at Brighton. One writes of him: "He was always to be depended on to give a helping hand in all cases. His loss is great and he will not readily be replaced from a professional point of view. As a staunch friend and reliable colleague he had no equal." Dr. De la Cherois leaves a widow.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Langenbuch, Director of the Lazarus Hospital, Berlin. His published papers chiefly dealt with nerve-stretching and with the surgery of the gall-bladder and liver.—Dr. Hermann Baur of Giessen. He had published monographs on Dislocations of the Hip and on Congenital Absence of the Rectum.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation on June 13th Mr. G. V. Bull and Mr. J. L. Lock, Gonville and Caius, were admitted to the degrees of M.B. and B.C.—At the congregation on June 18th the following medical degrees were conferred:—

M.D.—E. W. Ormerod, Trinity; C. F. Lillie, St. John's; and J. R. Charles, Caius.

M.B.—A. R. M. Brenan, M. Horne,* C. Killick,* A. B. Naish,* G. H. Orton, and G. A. C. Shipman, Trinity; F. E. Murray,* St. John's; G. E. Orme,* Caius; A. C. Pearson,* Sidney; and W. N. Heard, Downing.

B.C.—A. G. Wilson and J. S. Clarke, Caius; and those marked * above.

At the examinations for medical and surgical degrees, Easter term, the following candidates were successful in the subjects indicated:—

FIRST EXAMINATION.

Part I. Chemistry and Physics.—H. T. Ashby and F. A. Barker, Emmanuel; G. B. Bartlett and A. E. Bonny, Sidney Sussex; L. B. Cane, King's; C. Cassidy, Sidney Sussex; A. de C. C. Charles, Magdalene; H. J. Clarke and C. St. A. Coles, Trinity; G. W. Craig and R. Davies-Colley, Emmanuel; H. E. T. Dawes, St. John's; W. F. Denning, Trinity; A. N. Dickson, Downing; A. W. C. Drake, Pembroke; J. R. Draper, St. John's; M. F. Emrys-Jones, Caius; P. G. Fildes, Trinity; G. B. Fleming, King's; J. F. Gaskell, B.A., Caius; L. H. Goh, Emmanuel; G. W. Goodhart and W. B. Gourlay, Trinity; A. C. Grant, King's; C. W. Greene, Emmanuel; R. E. V. Hale, B.A., Caius; H. A. Hancock, non-collegiate; G. A. M. Heydon, Christ's; R. B. Hinde, Emmanuel; R. W. Ironside, Pembroke; R. S. Jenkins, St. John's; C. N. Le Brocq, B.A., Pembroke; R. McC. Linnell and W. B. Marshall, St. John's; J. H. B. Martin, Emmanuel; R. M. Miller, B.A., Clare; A. W. Moore, Emmanuel; W. P. Morgan, B.A., Clare; F. H. C. Newman, Jesus; E. V. Oulton, Christ's; A. S. M. Palmer, B.A., Jesus; D. G. Pearson, Pembroke; J. H. Pratt, Trinity; E. S. Purkis, H. Selwyn; A. L. Singer, King's; K. S. Singh, B.A., Pembroke; G. L. Smith, Jesus; H. A. Smith, B.A., H. Selwyn; G. K. Thorpe, Clare; B. Wahby, non-collegiate; A. Walker, B.A., Emmanuel; H. N. Webber, St. John's; P. C. West, Caius; and E. G. Wheat, B.A., Christ's.

Part II. Elementary Biology.—H. T. Ashby and F. A. Barker, Emmanuel; J. H. Board, Pembroke; P. E. Braham and B. P. Campbell, Clare; L. B. Cane, King's; C. Cassidy, Sidney Sussex; A de C. C. Charles, Magdalene; S. Churchill and H. J. Clarke, Trinity; E. B. Clayton, Caius; D. Cotterill, Christ's; H. E. T. Dawes and A. T. Denaham, St. John's; A. W. C. Drake, Pembroke; J. R. Draper, St. John's; G. W. Dryland, Caius; G. H. Dunn, Pembroke; H. B. Ellison, Caius; K. V. Elphinstone, Trinity; A. C. J. Elwin, B.A., Corpus Christi; M. F. Emrys-Jones, Caius; J. E. Ferrar, Sidney Sussex; P. G. Fildes, Trinity; G. B. Fleming, King's; H. B. H. Follit and C. L. Forde, Clare; J. C. Fox, Trinity; A. C. Grant, King's; C. W. Greene, Emmanuel; J. W. Grice, King's; A. H. Habgood Jesus; T. S. Hele, Emmanuel; A. L. Hetherington, Trinity; F. S. Hewett, Caius; G. A. M. Heydon, Christ's; G. A. F. Heyworth, Trinity; R. B. Hinde, Emmanuel; C. R. M. Jones, King's; R. P. Lamb, Trinity; C. N. Le Brocq, B.A., Pembroke; W. S. Leicester, Emmanuel; R. McC. Linnell, St. John's; S. G. Luker, Pembroke; T. F. Lumb, Caius; W. B. Marshall, St. John's; D. C. Master, Caius; A. H. Moore, Trinity; W. P. Morgan, B.A., Clare; F. H. C. Newman, Jesus; A. H. Owen, Caius; B. H. Palmer, Pembroke; A. S. M. Palmer, B.A., Jesus; D. G. Pearson, Pembroke; J. H. Pratt, Trinity; C. Raymond, Caius; C. E. Redman, A. L. Sachs, B.A., and C. E. F. Salt, Pembroke; A. L. Singer, King's; G. L. Smith, Jesus; R. E. Smith, Emmanuel; W. H. R. Sutton, Downing; R. Svensson, Caius; R. Wade, Christ's; R. R. Walker, St. John's; A. Walker, B.A., Emmanuel; H. N. Webber, St. John's; P. C. West, B.A., Caius; J. F. Windsor, H. Selwyn; T. N. Wood, Pembroke; and O. K. Wright, Christ's.

SECOND EXAMINATION.

Part I. Pharmaceutical Chemistry.—R. L. Barwick, B.A., Christ's; H. Beckton, M.A., Clare; W. T. Briscoe, B.A., H. Selwyn; H. A. Browning, St. John's; H. Cutler, B.A., Clare; G. B. Davis, M.A., Corpus Christi; G. H. Drew, Christ's; A. H. Falkner, B.A., Peterhouse; T. J. Faulder, B.A., Clare; H. J. Gauvain, St. John's; H. U. Gould, B.A., Trinity; G. F. Greenwood, Sidney Sussex; M. Gundy, St. John's; G. P. D. Hawker, B.A., Caius; W. H. Hodson, Christ's; P. P. Laidlaw, J. W. Linnell and S. G. Macdonald, St. John's; J. Mellanby, B.A., Emmanuel; H. W. Moxon and S. B. Priston, St. John's; J. N. Robins, B.A., Christ's; R. F. Skinner, Corpus Christi; J. M. Smith, Christ's; C. M. Stevenson, St. John's; B. S. Taylor, M.A., Clare; C. B. Ticehurst, St. John's; B. Wallis, Trinity; N. Wilson, B.A., Pembroke; H. P. Wiltshire, St. John's; J. L. Wood, Trinity; and R. F. Young, Christ's.

Part II. Human Anatomy and Physiology.—C. E. A. Armitage, B.A., Emmanuel; L. J. Austin, Sidney Sussex; H. M. Aviss, Downing; J. R. Beale and H. Beckton, M.A., Clare; G. F. Bird, B.A., and H. J. D. Birkett, B.A., Trinity; E. M. Brown, B.A., Pembroke; F. M. Bulley, B.A., Emmanuel; S. H. Clarke, B.A., Caius; A. W. D. Coventon, B.A., and W. L. Cripps, B.A., Trinity; A. H. Crossley, B.A., Clare; S. H. Daukes, B.A., Caius; A. P. Day, B.A., Christ's; L. H. Frankenburg, B.A., Emmanuel; S. E. French, King's; F. M. Gardner-Medwin, B.A., M. F. Grant, B.A., and Everard Harrison, B.A., Trinity; R. N. Hart, B.A., Sidney Sussex; W. R. Higgins, B.A., Caius; H. F. Horne, B.A., King's; J. H. Howitt, M.A., St. John's; W. E. Hume, B.A., Pembroke; F. A. G. Jeans, B.A., St. John's; A. R. Kerr, B.A., Christ's;

F. F. Leighton, B.A., St. John's; R. Lloyd, Emmanuel; H. F. Marris, B.A., Caius; W. L. Murphy, B.A., St. John's; J. A. A. Orlebar, Magdalene; C. H. W. Page, B.A., Corpus Christi; F. W. M. Palmer, B.A., Jesus; W. E. Paramore, B.A., St. John's; N. C. Patrick, B.A., Christ's; M. C. M. Pitkin, B.A., non-collegiate; R. N. Poignand, B.A., Caius; R. Puttock, B.A., Emmanuel; G. L. Ranking, B.A., Pembroke; W. H. Rayner, Trinity; C. T. Y. Robson, M.A., O. L. Scarborough, B.A., and L. Shingleton-Smith, St. John's; E. Slack, Inc., Pembroke; B. H. Steward, B.A., Jesus; J. H. Trench, Trinity; A. C. Warren, B.A., Emmanuel; H. W. Wiltshire, B.A., Clare; F. L. Woods, B.A., Caius; R. A. Worthington, B.A., Clare.

The Raymond Horton-Smith Prize for the best M.D thesis of the year has been awarded to W. L. Brown, M.A., M.D., of St. John's; *proxime accessit*, J. C. Muir, M.A., M.D., of Emmanuel.

VACCINATION AT PLYMOUTH.—The vaccination returns for 1899, which have just been issued, show that during the year 3010 births were registered in the borough of Plymouth; of these 1681 were vaccinated, 11 were insusceptible, 491 died within 12 months unvaccinated, 13 were exempted on conscientious grounds, 86 cases were medically postponed, 33 had removed from the town, 284 could not be traced, and 411 were unvaccinated.

SEASIDE CAMP FOR WORKING BOYS.—An appeal signed by the Bishop of London, the Rev. Prebendary Ingram, Mr. E. A. Ford, and Mr. F. Abel Bloxam, has been issued on behalf of the Seaside Camp for London Working Boys, which is in need of funds. This scheme of helping the working boys of London to secure a much-needed holiday has our hearty approval and we trust that the necessary funds will be at once forthcoming. The boys contribute towards their expenses, but it is utterly out of their power to provide all that is needed in order that they may receive a holiday.

MEMORIAL TO THE LATE MR. G. J. SYMONS, F.R.S.—A meeting of the subscribers to the Symons Memorial Fund was held last week in the rooms of the Royal Meteorological Society, 70, Victoria-street, Westminster. The treasurer, Dr. C. Theodore Williams, presided. The Executive Committee reported that the proposal that the memorial to the late Mr. G. J. Symons, F.R.S., the distinguished meteorologist and founder of the British Rainfall Organisation, should take the form of a gold medal had been approved and that the sum of £713 14*s.* 7*d.* had been subscribed for that purpose.

ROYAL COLLEGE OF SURGEONS IN IRELAND: BARKER ANATOMICAL PRIZE FOR 1902.—A prize of £21 is offered for competition and is open to any student whose name is on the anatomical class list of any school in the United Kingdom. The preparations entered must be placed in charge of the curator before March 31st, 1902. The prize is offered for a dissection showing the distribution in the head and neck of the seventh, eighth, ninth, tenth, eleventh, and twelfth cranial nerves. The conditions under which the competition is to be carried out are as follows:—1. The preparation must be sent to the curator of the museums, Royal College of Surgeons, each being marked with a fictitious signature, and accompanied by a sealed envelope bearing outside the same signature, and containing within the full name of the competitor and a declaration to the effect that the work of the preparation has been carried out by himself. The printed form necessary for this declaration can be obtained on application to the curator. 2. The dissections are to be mounted in vessels fitted with glass covers, but the covers must not be sealed down. Earthenware basins and plaster-of-Paris settings are not compulsory if the specimens can be better displayed and preserved by other means. 3. No prize will be awarded unless sufficient merit be shown, 70 per cent. of the total marks being the minimum. The following is the scale of marks:—(*a*) for the merit of dissection, 60; (*b*) for excellence of setting, 20; and (*c*) for originality, 20; total number of marks, 100. Those dissections for which prizes are awarded become the property of the College. 4. Those competitors who enter dissections for which prizes are not awarded but which show sufficient merit may be refunded such amount of the cost of production as the examiners deem fit. 5. The cost and risks of transport must be borne by the student. The College will not be responsible for any damage that the preparations may sustain; but those of unsuccessful competitors residing at a distance will be carefully re-packed and handed to the carriers for delivery at such address as may be specified by the student.

THE Pope has conferred the Cross "Pro Ecclesia et Pontifice" upon Mr. Francis Murphy, L.R.C.P., L.R.C.S. Edin., of Tottenham, who, as medical officer, was one of the gentlemen who took an active part in the great Jubilee Pilgrimage to Rome last year.

HOSPITAL MEMORIAL BED.—The trustees of the estate of the late Mr. Frederick Rothwell have sent a donation of £1000 to the British Home and Hospital for Incurables, Streatham, S.W., to endow a "Rothwell" memorial bed in that institution.

THE directors of the Great Eastern Railway Company have appointed Mr. William Rose, M.B. Lond., F.R.C.S. Eng., senior surgeon to King's College Hospital, &c., consulting surgeon to the Great Eastern Railway, in the place of the late Mr. Thomas Bond, F.R.C.S. Eng.

ISOLATION HOSPITAL FOR LLANDAFF AND DINAS POWIS.—An inspector of the Local Government Board held an inquiry in Cardiff on June 14th into the application of the Llandaff and Dinas Powis Rural District Council for sanction to borrow £8700 for the erection of an infectious diseases hospital.

DEVIZES HOSPITAL.—The twenty-ninth annual meeting of the subscribers to this institution was held on June 13th. The medical report stated that 124 in-patients had been admitted during the year as compared with 118 in 1899, the average stay in each case being 34·8 days. The total weekly cost of each patient was 15*s.* 3*d.*, compared with 17*s.* in the previous year. The financial statement showed that the income amounted to £700 and the expenditure to £788.

A PLAGUE OF RATS.—At the Isle of Wight County Court on June 8th a farmer applied for a perpetual injunction to restrain two farmers, his neighbours, from continuing to allow the deposit on their farm in a large heap of the Newport town refuse, on the ground that it enticed and harboured thousands of rats, which had to a large extent destroyed plaintiff's crops on adjacent land. £50 damages were claimed. The case for the plaintiff was that the plague of rats did not commence till after defendants allowed the deposit and accumulation—which had been going on for two years—of nine loads per day of town refuse on their land close to plaintiff's property. The heap was soon swarming with rats, which overran plaintiff's land, eating nearly half of a four-acre field of oats, biting off some 4000 cabbage plants, hollowing out a quantity of turnips and mangels and honey-combing plaintiff's bank and filling a ditch. After evidence had been given his honour said that the defendants were not entitled to accumulate so much refuse beyond the ordinary requirements of their farm for agricultural purposes, and as the harbouring of rats was the consequence they were liable for the damage. He gave judgment for £35 damages, and granted an injunction, the latter being suspended for three weeks to give defendants time to remove the refuse.

FREEMASONRY.—*The Rahere Lodge.*—The installation meeting of the Rahere Lodge, No. 2546, took place in the great hall of St. Bartholomew's Hospital (kindly lent for the occasion by the treasurer and almoners) on June 11th. Mr. Sydney R. Scott, M.B. Lond., was initiated into Freemasonry and Bros. Waring, Cross, and Robinson were elected members of the Standing Committee. W. Bro. Gripper, M.B., the outgoing W.M., installed his successor W. Bro. Phineas S. Abraham, M.D., as W.M. for the ensuing year. W. Bro. Abraham then invested as his officers Bros. W. Gripper, G. H. R. Holden, E. Clarke, Rev. Sir Borradaile Savory, Bart., Clement Godson, D'Arcy Power, C. B. Lockwood, Haig Brodie, G. H. Gilbertson, Howard Marsh, A. G. R. Foulerton, G. H. Robinson, Mus. Bac., H. D. Lauchlan, M. J. Anderson, J. Valérie, J. Herbert Menzies, and P. F. Madden. A Past Master's jewel was unanimously awarded to Bro. Gripper for his services to the Lodge during his year of office, and presented by Bro. Clement Godson. Bro. Gripper, in reply, expressed his sincere thanks. A grant of 20 guineas was made to the British Medical Benevolent Fund. The report of the Audit Committee was received and adopted. It showed that the amount given in charity during the past year amounted to £69 6*s.* The banquet was held at Frascati's Restaurant and was attended by 86 brethren. A most enjoyable evening was spent, an excellent musical entertainment being provided by Bros. Courtice Pounds, Franklin Clive, W. L. Barrett, and others.

A MEETING of the Cambridge Medical Society was held on June 7th, Dr. J. Griffiths, the President, being in the chair. Dr. Nuttall read a paper on the Formation of Specific Anti-bodies in Blood, following upon Treatment with the Sera of Different Animals, together with their use in Legal Medicine. Mr. Young related two cases of Appendicitis followed by pelvic abscess in women past middle life, both of which made a good recovery without surgical interference, in one case the pus discharging through the bladder and the other through the vagina.

NORTH LONDON HOSPITAL FOR CONSUMPTION.—Mr. H. H. Asquith, K.C., M.P., presided at a festival dinner in aid of the funds of the North London Hospital for Consumption, held at the Hotel Cecil on June 14th. In proposing the toast of the evening the Chairman earnestly appealed for funds to enable the hospital, which had been the pioneer of the open-air treatment of pulmonary tuberculosis, to make additional accommodation which was absolutely necessary to carry on the work of the institution. £6000 have been promised towards the building fund and donations have been received amounting to £2486.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY.—The Earl of Dartmouth presided at the Hotel Cecil on June 12th at a festival banquet in aid of the general funds of the Miller Hospital and Royal Kent Dispensary. In proposing the toast of the evening the chairman said that the hospital and dispensary ministered to a population of over 315,000, the majority of whom were dependent on charitable institutions in times of sickness. The institution was much in need of assistance, and if they were to provide in any adequate manner for those seeking admission the number of beds should be doubled. An additional £800 a year was needed for maintenance. The secretary announced during the evening subscriptions and donations amounting to £500.

KING'S COLLEGE HOSPITAL.—The annual festival dinner of this hospital was held in the hall of the Clothworkers' Company, Mincing-lane, E.C., on June 12th, when the Archbishop of Canterbury presided. The Primate, in proposing success to King's College Hospital, said that they must all wish prosperity to an institution where the health and comfort of human beings and the healing of disease were being studied and provided for. The century now past, especially the latter half, had witnessed greater progress in the science of medicine than any previous period, and King's College had worthily held its place in that progress. He referred to Lord Lister who had been so closely connected with that institution. King's College Hospital had a strong claim on all who needed or valued medical assistance, and it deserved the most liberal support. Donations amounting to over £2100 were announced.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, JUNE 13TH.

Medical Officers of Health in Scotland.

Mr. WEIR asked the Lord Advocate, as representing the Secretary for Scotland, whether, having regard to the fact that a medical officer of health was required to be the holder of a public health diploma, he would explain how it happened that of the 278 medical officers of health for Scotland only 61 possessed the required diploma.—The LORD ADVOCATE replied: The great proportion of local medical officers of health in the various districts of the counties in which they are employed do not possess the qualification referred to by the hon. Member because it was unnecessary in the case of appointments made prior to the coming into force of the Public Health Act of 1897—viz., Jan. 1st, 1898. As regards burghs, the qualification has been imperative only in the case of appointments made subsequently to May 15th, 1894.

Registrars of Births and Deaths.

Mr. GRANT LAWSON, Parliamentary Secretary to the Local Government Board, introduced a Bill to make uniform the law with regard to the appointment of superintendent registrars of births and deaths. With the exception of some 10 or 12 unions the boards of guardians make this appointment; in the exceptional unions it is made by the Registrar-General, and the Bill proposes to establish a uniform system of appointment by the guardians.

FRIDAY, JUNE 14th.

A Standard for Milk.

Mr. HANBURY, President of the Board of Agriculture, announced that after carefully considering the evidence submitted to the departmental committee and their reports, he proposed to fix a standard under which, for the purposes of the Sale of Food and Drugs Acts, a presumption would be raised that milk was not genuine unless it contained 3 per cent. of milk fat and 8·5 per cent. of non fatty milk solids. Regulations to this effect were being prepared, and he proposed that they should come into force on August 1st.

Enteric Fever among the Troops.

Sir WALTER FOSTER asked the Secretary of State for War whether he could state the registered accommodation of the *Mongolian* for troops and how many men she brought home from South Africa on her last voyage, whether there were seven deaths on board, and what was the number of cases of enteric fever and other diseases which occurred during the passage to Southampton.—Lord STANLEY replied to the questions saying that the registered accommodation of the *Mongolian* for troops was 1000. On her last voyage she brought home 778 Imperial Yeomanry. There were 31 cases of enteric fever, 42 cases of miscellaneous diseases and other trivial cases during the voyage; 7 deaths occurred, all from enteric fever.

Medical Officers of Health in Scotland.

Mr. CATHCART WASON asked the Lord Advocate if, in the case of sparsely populated districts, especially in the Highlands and Islands of Scotland, the Government would provide that medical men might be appointed officers of health without holding diplomas in sanitary science, public health, and State medicine.—The LORD ADVOCATE replied that the matter was entirely regulated by statute and the Government had no power in the matter.

Poisoned by Tinned Meat.

Mr. PARKER SMITH asked the Secretary of State for War whether he was aware that a number of men of the York and Lancaster Regiment in Fermoy barracks were poisoned on Saturday, June 8th, by eating tinned meat; whether he could state whether any deaths had occurred; from what source the meat was obtained; and whether a full inquiry would be made into the circumstances.—Lord STANLEY replied: Some men of the York and Lancaster Regiment were poisoned by partaking of a tin of beef. This tin was purchased by the men from the canteen and was not part of the Government ration. The men are all practically well now. The commanding officer has full discretion in regard to canteen supplies and no inquiry is necessary.

MONDAY, JUNE 17TH.

State of the Concentration Camps in South Africa.

There was a long debate at this sitting of the House on the condition as regards sanitation and medical provision of the camps established in the four South African colonies for the reception of Boer refugees. Mr. BRODRICK, Secretary of State for War, gave an account of the dietary of the camps, and with regard to some of them statistics as to the recent mortality. In the case of the Johannesburg camp he stated that from May 1st to May 31st, 1901, the deaths were six men, six women, and 68 children. These, he said, were accounted for by an epidemic of measles. There was an experienced medical officer in charge, assisted by a qualified matron and a large staff of nurses. The deaths in the Transvaal camps during May were 39 men, 47 women, and 250 children. He explained with regard to the epidemic of measles in the Johannesburg camp that a great deal of it was due to the conduct of the Boer women who found it very difficult to make up their minds to accept the ordinary medical arrangements for separation and the ordinary precautions which were taken against a disease of this kind. They would not accept the rule as to dieting patients. As an instance of the sort of thing that went on he said that a woman who had a child suffering from dysentery gave the child, although proper food was there and had been ordered by the medical man, a raw carrot and the child died in a few hours. Sir HENRY CAMPBELL BANNERMAN suggested that the Government should send out a number of civilian medical men and a staff of nurses to see to the sanitation of the camps and the treatment of their inmates, but Mr. BRODRICK said nothing about this suggestion.

The New Factory Legislation.

The Factory and Workshop Acts Amendment Bill was read a second time and referred to the Grand Committee on Trade.

TUESDAY, JUNE 18TH.

Proposed Amendment of the Medical Acts.

Sir RICHARD JEBB introduced the Bill formulated by the General Medical Council to amend the Medical Acts 1858 to 1886. It is safe to say that unless the Bill is practically unopposed it has no chance of passing into law during the present session.

Preservatives and Colouring Matters in Food.

Mr. WALTER LONG announced that the Departmental Committee on the use of preservatives and colouring matters in food have completed their inquiry and are now considering their report which he hoped would be presented during the present Parliamentary session.

Phthisis in the Post-office Service.

Sir WALTER FOSTER asked the Secretary to the Treasury, as representing the Postmaster-General, whether, in view of the scientific interest attaching to comparative statistics of mortality from phthisis, he would grant a return showing the mortality and superannuations from that disease in the Post Office, distinguishing between the various occupations, the out-door and in-door staffs, London and the provinces, and the various ages of the employés.—Mr. AUSTEN CHAMBERLAIN said that it would be difficult to give all the details referred to, but it might perhaps suffice to say that the average annual number of deaths from phthisis in the past three years was 47 and the average number of established officers (men) in the United Kingdom in those years was 52,146, showing a death-rate of 0·9 per 1000. He had not been able to get the figures with reference to females, but he believed they showed a slightly lower rate.—Sir WALTER FOSTER said that the Postmaster-General might consider the desirability of giving general details on this subject in the annual report of the department.—Mr. AUSTEN CHAMBERLAIN undertook to submit this suggestion to the Postmaster-General.

Strange Conduct of an Irish Medical Man.

Mr. WILLIAM JOHNSTON asked the Chief Secretary to the Lord Lieutenant of Ireland (1) whether his attention had been called to the trial of the Rev. Edmond O'Leary, C.C., at the Limerick petty sessions on Friday, the 7th instant, on a charge of using threatening language

to Dr. Long, in consequence of which a crowd gathered; (2) whether he was aware that during the week Dr. Long was attacked when visiting a house in Thomondgate to attend a Protestant patient, and that after the Bench had adjudicated on the case against Rev. E. O'Leary the Rev. Father Shanahan, P.P., said while Dr. Long continued in Limerick the same scenes would occur; and (3) whether the Government would take adequate steps to protect Dr. Long in his rights as a British citizen.—MR. WYNDHAM replied: Yes, sir, the Bench consisting of five magistrates decided unanimously to dismiss the charge on the grounds apparently that the words complained of did not amount to a threat and were no more than words of rudeness or incivility and that the reverend gentleman was not responsible for the acts of the crowd. The reply to the second paragraph is in the affirmative. Dr. Long visited a Protestant who had for two months been a lodger in the house of a Roman Catholic. In consequence of the attack on Dr. Long two persons were summoned for assault on June 7th and bound over in £5 for a month. The prosecution of two other persons for riotous behaviour on June 2nd has been deferred for a month. In reply to the third paragraph, the Government will continue the police protection which has been given to Dr. Long since Jan. 14th. The police reported at that time that Dr. Long's action was often injudicious and that he seemed disposed to court an exhibition of hostile feeling. I directed on Jan. 22nd that although Dr. Long's conduct was injudicious protection must be continued. I ought to add, in justice to the police, that Dr. Long occasionally evades protection and that it is, so far as I know, only on such occasions that he has suffered from the hostility of the crowd.

MR. O'SHAUGHNESSY asked the Chief Secretary whether his attention had been directed to the conduct of Dr. Long in distributing in the city of Limerick religious tracts; and whether, with a view to prevent offence to members of the Roman Catholic religion and the provocation to a breach of the peace of the poorer Roman Catholics, steps would be taken to prevent him from continuing to carry on these practices.—MR. WYNDHAM replied: It is to be regretted that Dr. Long, or rather that the society which employs him, should conscientiously think it right to afford gratuitous medical attendance with the avowed object of making converts in the midst of a Roman Catholic population. But in this, as in other sectarian or agrarian conflict in Ireland, the duty of the Government consists in preserving the peace and prosecuting those who break the law and does not extend to the prevention of actions which, however injudicious, are not in themselves illegal.

BOOKS, ETC., RECEIVED.

ALCAN, FÉLIX, Paris.
Principes du Diagnostic Gynécologique. By Dr. G. Fraisse. Price 5 francs.

BAILLIÈRE, TINDALL, AND COX, Henrietta-street, Strand, London.
An Atlas of the Anatomy and Physiology of the Child. By D'Arcy Power, M.B., F.R.C.S. Price 5s.

BLACK, ADAM AND CHARLES, London.
Guide to Switzerland. By W. A. B. Coolidge. With Cycling Supplement by Chas. L. Freeston. Price 3s. 6d.

CHAPMAN AND HALL, London.
Public Water-supplies: Requirements, Resources, and the Construction of Works. By F. E. Turneaure, C.E., and H. L. Russell, Ph.D. Price 25s.

CHURCHILL, J. AND A., Great Marlborough-street, London.
The Quarterly Journal of Microscopical Science. May, 1901. Price 10s.
St. Thomas's Hospital Reports. Vol. XXVIII. Price not stated.
Schoolboys' Special Immorality. By Maurice C. Hime, M.A., LL.D. Third Edition. Price 1s.

HIRSCHWALD, AUGUST, Unter den Linden, Berlin.
Chirurgische Klinik der Nierenkrankheiten. Von Professor Dr. James Israel. Price 28 marks.

KIMPTON, HENRY, Furnival-street, London.
A Text-book of Gynecology. Edited by C. A. L. Reed, M.D., &c. Price 25s.
Introduction to the Study of Medicine. By G. H. Roger. Translated by M. S. Gabriel, M.D. Price 21s.
Operative Surgery. By Joseph D. Bryant, M.D. Vol. II. Price 21s.

LEWIS, H. K., Gower-street, London.
Purulent Nasal Discharges: their Diagnosis and Treatment. By Herbert Tilley, M.D., &c. Price 4s.

LIPPINCOTT COMPANY, Philadelphia and London.
Cyclopædia of the Diseases of Children, Medical and Surgical. Vol. v., Supplement. Edited by Williams A. Edwards, M.D. Price 25s.

MACMILLAN AND CO., London.
Amphibia and Reptiles. By Hans Gadow, M.A., Ph.D., &c. Price 17s.

MURRAY, JOHN, Albemarle-street, London.
A Civilian War Hospital: being an Account of the Work of the Portland Hospital and of the Experience of Wounds and Sickness in South Africa, 1900. By the Professional Staff. Price 12s.
A Treatise on Medical Jurisprudence. By George Vivian Poore, M.D., F.R.C.P. Price 12s.

NEWNES, G., Southampton-street, Strand, London.
The Story of Wild Flowers. By Rev. Professor G. Henslow, M.A., &c. Price 1s.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Burdett's Hospitals and Charities, 1901. By Sir Henry Burdett, K.C.B. Price 5s.

SCOTT, GREENWOOD, AND CO., Ludgate-hill, London.
Practical X Ray Work. By F. T. Addyman, B.Sc., F.I.C. Price 10s. 6d.

SILSBURY, BROS., Shanklin.
Shanklin Spa: its History, and Guide to the Town and Neighbourhood. By Monopole. Price 6d.

UNWIN, T. FISHER, Paternoster-square, London.
Beauty Adorned. By Mrs. Humphry. Price 1s.
Eben Holden: a Tale of the North Country. By Irving Bacheller. Price 6d.
Desmonde, M.D. By Henry Willard French. Price 2s. 6d.

WILLIAMS AND NORGATE, Henrietta-street, Covent Garden, London.
Compendium der Physiologie des Menschen. By Dr. Paul Schultz. Second edition. Price 7s.

WRIGHT AND CO., Bristol.
Diseases of the Upper Respiratory Tract. By P. Watson Williams, M.D. Price 17s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLAN, JAMES W., M.B. Glasg., has been appointed Physician to the Glasgow Royal Infirmary, vice John Dougall, retired.

BANK, G. A., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Medical Officer of the Isle of Wight Workhouse.

BULTEEL, C. E., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Physician to King's College Hospital.

CARLÉ, F., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Physician to King's College Hospital.

CLENDINNEN, W. MCKENTIRE, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer of Coseley.

FORTY, DANIEL H., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Deputy Medical Officer of the Charfield and Tortworth District by the Thornbury (Gloucestershire) Board of Guardians and District Council.

GERVIS, F. HARCOURT, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer to the Hampstead Provident Dispensary (West Hampstead Branch).

GROVES, W. G., M.R.C.S. Eng., L.S.A., has been re-appointed Medical Officer of Health of Woodford Urban District.

HALBERICH, S., M.D. Vienna, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant House Surgeon at the West Ham Hospital, Stratford, E.

JAQUES, R., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to King's College Hospital.

JEFFERIS, T. M., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to King's College Hospital.

JONES, E. HARRIES, M.B., C.M. Edin., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Northampton General Infirmary.

KROENIG, VICTOR R. F., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Farringdon General Dispensary, Bartlett's-buildings, Holborn, E.C.

LEWIS, P. K., M.R.C.S. Eng., L.S.A., has been appointed Medical Officer of the Bromyard Workhouse.

LOGAN, F. T. BISHOP, L.R.C.P. Edin., M.R.C.S. Eng., has been re-appointed Medical Officer for the Bishopsworth District of the Long Ashton (Somerset) Union.

MCCLEARY, G. F., M.B., D.P.H. Camb., L.S.A., has been appointed Medical Officer of Health of the Metropolitan Borough of Battersea.

MACLEOD, J. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Accoucheur to King's College Hospital.

MASON, J. J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health of the Bollington Urban District.

MAXWELL, W. W., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Accoucheur to King's College Hospital.

ROBINSON, J. C. R., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed District Medical Officer of the Depwade Union.

SANDERS, E. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to King's College Hospital.

STONE, R. D. A., L.R.C.P., L.R.C.S. Irel., has been appointed District Medical Officer of the Devizes Union.

STUART, W. L., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Physician to King's College Hospital.

SWENDEN, B. W., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer of the Rural District of Croft.

THOMPSON, W. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon of the Windsor and Eton Royal Infirmary and Dispensary.

TOOVEY, THOS. E. FRAZER, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant Resident Medical Officer to St. Mary's Hospital for Sick Children, Plaistow, E., vice Arthur E. Whitehead, resigned.

WHITEHEAD, ARTHUR E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Resident Medical Officer to St. Mary's Hospital for Sick Children, Plaistow, E., vice R. S. Ellis, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD UNION.—Male Assistant Medical Officer. Salary £130 per annum, with board, washing, and apartments.

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House Surgeon. Salary £30, with board and lodging.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BRIGHTON, HOVE, AND SUSSEX THROAT AND EAR HOSPITAL, Church-street, Brighton.—Honorary Consulting Surgeon, Honorary Surgeon, and two Honorary Assistant Surgeons.

CARLISLE DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum, with apartments.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with residence and maintenance. Also House Surgeon. Salary £90 per annum, with residence and maintenance.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Second House Physician for six months. Salary at rate of £30 per annum, with board, residence, and washing.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

CONSUMPTION SANATORIA FOR SCOTLAND, Bridge of Weir, Renfrewshire.—Resident Medical Officer. Salary £150, with house, board, and laundry.

COUNTY ASYLUM, Carmarthen.—Junior Assistant Medical Officer, unmarried. Salary £130, advancing £10 yearly to £150, with furnished apartments, board, washing, and attendance, without stimulants.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with board, apartments, and washing.

COUNTY BOROUGH OF BURTON-UPON-TRENT.—Medical Officer of Health and Public Analyst. Salary at rate of £350 per annum for the Medical Officership and £50 per annum for the office of Public Analyst, and authorised disbursements.

COUNTY BOROUGH OF WEST HAM.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, washing, and furnished apartments.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Senior Assistant Medical Officer, unmarried. Salary £150 a year, rising to £180, with board, lodging, &c.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary £100, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon. Salary £50 per annum, with board and washing. Also Assistant House Surgeon. Salary £25 per annum, with board and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ECCLES AND PATRICROFT HOSPITAL, Patricroft.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

ESSEX COUNTY ASYLUM, Brentwood.—Junior Assistant Medical Officer. Salary £120 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E. Senior Resident Medical Officer. Salary £70, with board and washing.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

GUY'S HOSPITAL.—Demonstrator of Chemistry and Physics and Demonstrator of Chemistry and Toxicology.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HEREFORD COUNTY AND CITY ASYLUM.—Locum Tenens Assistant Medical Officer for 10 or 12 weeks. Salary £3 3s. per week, with board, lodging, &c., and railway fare.

HEXHAM RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary at rate of 200 guineas per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with an honorarium of £25.

HOSPITAL FOR DISEASES OF THE SKIN, Stamford-street, Blackfriars, S.E.—Two Clinical Assistants.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Clinical Pathologist and Bacteriologist, non-resident, honorarium 50 guineas; also Anæsthetist, honorarium 15 guineas; House Surgeon, unmarried, for six months, salary £20, washing allowance £2 10s., with board and residence; and Medical Registrar, honorarium 50 guineas.

HULL ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60, with board and lodging.

HULME DISPENSARY, Manchester.—Honorary Physician and also Honorary Surgeon.

INFIRMARY, Cambridge-road, S.E.—First Assistant Medical Officer, single. Salary £150 per annum, with board, lodging, and washing.

LAWN HOSPITAL FOR INSANE, Lincoln.—Assistant Medical Officer. Salary £100.

LEICESTER INFIRMARY.—Second Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer. Honorarium £40 per annum.

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Hampstead.—Junior Resident Medical Officer. Honorarium £60.

NORTH WALES COUNTIES LUNATIC ASYLUM, Denbigh.—Second Assistant Medical Officer. Salary £120 per annum, increasing £10 per annum to a maximum to be fixed by the committee, with board, residence, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon. Salary £200 per annum, increasing by £15 every year. Also two Assistant Resident Surgeons. Salaries £160 per annum each, increasing by £10 every year, furnished apartments, attendance, light, and fuel. Unmarried.

OWENS COLLEGE, Manchester.—Senior Demonstrator in Physiology. Stipend £150, rising to £200.

PETERBOROUGH INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100, increasing by £10 a year, with board (excluding stimulants) and apartments.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Bridge-road, S.E.—Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician, for six months. Salary at rate of £60 per annum, with furnished apartments, board and washing.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

ROYAL SEA-BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Salary £50, board, residence and laundry.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon. Salary £100, with board, lodging, and washing.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer, unmarried. Salary £105, with residence and attendance.

SALFORD UNION.—Resident Medical Officer. Salary £150 per annum, with furnished apartments and attendance.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board and washing.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

TOWER HAMLETS DISPENSARY, White Horse-street, Stepney, E.—Resident Medical Officer. Salary £150 per annum, with furnished rooms, coals, gas, and attendance.

UNIVERSITY COLLEGE, Sheffield.—Professorship of Anatomy.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—House Physician for six months. Honorarium of £25 and board and lodging.

WORKSOP DISPENSARY AND VICTORIA HOSPITAL.—House Surgeon and Dispenser, unmarried. Salary £150 per annum, rooms, and attendance.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BLAIR.—At Brerisleigh, Banwell, Somerset, on June 19th, 1901, the wife of Andrew B. Blair, M.B., C.M., of a son.

BRAIDWOOD.—On June 15th, at Burgh Heath-road, Epsom, the wife of T. Lithgow Braidwood, M.R.C.S., L.R.C.P., of a son.

COCKING.—On June 16th, at 305, Glossop-road, Sheffield, the wife of W. Tusting Cocking, M.D. Lond., of a son.

CROOKS.—On June 15th, at Faversham, Kent, the wife of James Crooks, M.D., of a son.

CULLINAN.—On June 11th, at King-street, Hammersmith, the wife of Edward Cullinan, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

DAVIES.—On June 4th, at Vale House, Greenwich, the wife of Hugh Davies, F.R.C.S. Eng., M.B. Lond., of a son.

MARRIAGES.

ANSTEY-CHAVE—MAIRIS.—On Monday, June 17th, at St. Mary's Church, Queenstown, by the Rev. Canon Daunt, T. Anstey-Chave, M.B. Lond., F.R.C.S.E., of 19, Windsor-esplanade, Cardiff, elder son of W. F. Chave, J.P., the Moor House, Hereford, to Florence Kathleen Victoria, third daughter of V. Mairis, Belvelly, Queenstown, and granddaughter of the late General Mairis, R.E.

BELL—BOND.—On June 12th, at St. George's, Hanover-square, by the Rev. David Anderson, William Jarvis Bell, M.B., C.M., to Edith Caroline, daughter of the late James Bond.

GEDGE—HALLOWES.—On June 12th, at All Saints', Maidstone, by the Rev. Canon Pollock, Arthur Sydney Gedge, M.R.C.S., L.R.C.P., to Dorothy, daughter of A. H. B. Hallowes, M.R.C.S., &c., of Maidstone.

LE FLEMING—BEECHING.—On June 13th, at the parish church, Tonbridge, by the Rev. Hugh Le Fleming, M.A., brother of the bridegroom, assisted by the Rev. C. G. Baskerville, M.A., vicar, and the Rev. A. Lucas, M.A., E. Kaye Le Fleming, B.A., M.B., B.C. Cantab., of Wimborne, Dorset, fifth son of John Le Fleming, M.A., of Eton House, Tonbridge, to Florence Murton, fifth daughter of A. T. Beeching, J.P., of the Priory, Tonbridge.

MILLER—COOK.—On June 12th, at the parish church, Preston, by the Rev. H. S. Buttler, M.A., vicar of Preston, Thomas Henry Miller, M.B., Ch.B., L.D.S., eldest son of Nathaniel Miller, Esq., J.P., L.D.S., of Winckly-square, Preston, to Janet Allan Cook, elder daughter of Alexander Cook, M.D., F.R.C.S., of Ribblesdale-place, Preston. At home, 2, Avenham-colonnade, July 9th, 10th, and 11th.

MUDIE—READING.—On June 15th, at Holy Trinity Church, West-hill, Wandsworth, by the Rev. W. Reed, M.A., vicar of Wandsworth, Walter Mudie, L.D.S. R.C.S. Eng., to Alice Stuart, daughter of Joseph Reading.

DEATHS.

BRUNNER.—On June 15th, at Hillingdon, Uxbridge, aged 27, Frederick Ernest Brunner, B.A., M.B., B.Ch. Cantab., and M.R.C.S. Eng., L.R.C.P. Lond.

HAY.—On June 14th, at Holton House, Hull, William Hay, aged 75 years.

HOLTZ.—On June 17th, at 16, Cromwell-crescent, S.W., Florence Lascelles, widow of the late Andreas Holtz, Esq., and daughter of the late Dr. John Doran, F.S.A.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN IMPORTANT POINT OF LAW.

AT the Folkestone County Court on Tuesday, before Sir William L. Selfe, judge, a case was heard in which a boarding-house keeper, named Nyren, sought to recover damages from a gentleman named Thomas, residing in Carmarthenshire, under the following circumstances. The defendant's daughter was at a boarding-school at Folkestone and was taken ill. Arrangements were made for her removal to the house of the plaintiff, she being assured by the medical man and the schoolmistress that there was nothing infectious in the illness. Next day, however, typhoid fever was diagnosed and ultimately the child died in the boarding-house. There was an agreement entered into by the father as to the amount to be paid for rent of the apartments, &c., but he objected then to the payment of compensation. The plaintiff sought to recover in all £32 16s., which included charges for disinfecting and for damage to linen and other articles, and also £16 for loss of business, a boarder who would have stayed for six weeks leaving her in consequence of the illness, and two ladies who would have taken apartments going elsewhere. The facts of the case were practically admitted, but the defendant's solicitor asked His Honour to take a note of the objection that the defendant was not legally bound to pay compensation inasmuch as plaintiff was running a risk in taking a patient into her house with a disease the nature of which she did not know, and should the defendant be legally bound to pay compensation the rent he was paying should be taken into consideration. His Honour, in giving judgment, said it was an important case, and one which would probably go further. The same point had been raised once before in his court at Folkestone, in a case in which the plaintiffs were hotel-keepers, but in that case he had no difficulty in dealing with it, because it was shown to his satisfaction that there had been no loss of business. (The case was reported in THE LANCET at the time.) In the present case, however, it had been clearly shown that the plaintiff had lost business, and therefore he gave judgment for the £16, but disallowed sundry small items which he thought the defendant ought not to be called on to pay.

"HYPERIDROSIS: SUGGESTIONS WANTED."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 1st, p. 1582, "Veldt" asks for some suggestion on the treatment of sweating on the least exertion. I refer him to the experiments of Dr. Ringer and Dr. Murrell with pilocarpine in small doses—viz., the twentieth of a grain. The sweating in such cases is usually associated with nerve depression. Tabloids of the nitrate of pilocarpine are obtainable from Messrs. Burroughs, Wellcome, and Co.

I am, Sirs, yours faithfully,

June 13th, 1901. M. D. ERLANG.

"THE SWALLOWING OF FOREIGN BODIES."

To the Editors of THE LANCET.

SIRS,—In your remarks on "The Swallowing of Foreign Bodies" in THE LANCET of June 15th, p. 1738, you suggest that diligent search may frequently discover the missing article about the house. The other extreme is, however, occasionally met with, as in my experience last Christmas. An undemonstrative child, about four years old, was brought to me with a history of having had in her hand a halfpenny which, a moment later, was nowhere to be found. Coaxes, threats, and emetics were powerless to explain the disappearence and I had perforce to recommend a liberal diet of soft pappy food, with an assurance that the coin would become invested in it and pass safely. A month later the watchful mother recovered from the motions *two* halfpennies—a very gratifying return in these hard times, panning out at the very respectable figure of 100 per cent. *per annum*. The father, a smart business man, regrets now that the child was not given a sovereign to play with!

I am, Sirs, yours faithfully,

West Bridgford, Notts., June 17th, 1901. H. E. BELCHER.

MEDICAL TESTIMONIALS TO QUACKERY.

A CORRESPONDENT sends us a cutting from the *Lancaster Observer* of June 7th containing a flaming advertisement of the skill and knowledge of one Siemms who describes himself as a "Specialist in Skin Disorders of the Feet and Hands, Surgeon-Chiropodist." Mr. Siemms further informs his readers that he operates on all diseases of the feet and hands. His fees are from 2s. 6d., but fungoid growths and varicose veins will be charged extra. Mr. Siemms quotes testimonials from four medical men. The first-named, who according to the Medical Directory is M.D., M.Ch. of the Royal University of Ireland, testifies to Mr. Siemms's skill in dealing with "several corns on the feet of one of my patients." The second testimonial comes from a M.D. of London, with whose corns Mr. Siemms dealt "in a highly skilful and painless manner." The third testimonial is from a M.R.C.S., L.R.C.P., London, who considers that anyone may consult Mr. Seimms with confidence. Testimonial number four is from a M.B., F.R.C.S. Edin., who says that Mr. Siemms removed two corns from a patient of his to her entire satisfaction. Truly, a sour correspondent says, the medical men of Lancaster and district seem to be of a peculiarly trustful and unsophisticated nature. It is bad enough to give testimonials to a mere corn-cutter, but when it comes to medical men backing up an advertiser who has presumably had no medical education whatever and has no qualifications, who gives himself out as operating on all diseases of the feet and hands, it is time to protest. Perhaps the medical men to whom we refer will offer some explanation of their remarkable conduct. At present we withhold their names.

A WARNING.

To the Editors of THE LANCET.

SIRS,—May I warn your London readers against a plausible American gentleman who calls and presents a card "Clarence Perry, M.D." He has a charming manner and says that he knows friends of yours in America who begged him specially to call and to present to you their respects. He calls again the next day and on a plea of urgency asks for a loan and offers to leave his watch or his ring as a guarantee of good faith. When he fails to come back to redeem the article it will be found that he has borrowed about twice its value. The police tell me that they cannot prosecute and I therefore venture thus to warn those who might otherwise be duped.

I am, Sirs, yours faithfully,

Harley-street, W., June 17th, 1901. JOSIAH OLDFIELD.

A BON MOT.

AT a recent medical gathering a speaker, to whose identity we will give no further clue than by saying that his name is known in connexion with removal of vesical calculi, happening to remark that in spite of competition and other circumstances he was glad to say he was not in the workhouse, was interrupted by one of his audience with the witty rejoinder, "You have to break stones, though!"

"KELÈNE."

To the Editors of THE LANCET.

SIRS,—If the writer of the question in THE LANCET of June 1st, p. 1582, as to Kélène and its usefulness will communicate with me I shall be very glad to tell him my experience of the drug. I have tried it in a fair number of cases now.—I am, Sirs, yours faithfully,

W. J. MCCARDIE.

54, Newhall-street, Birmingham, June 18th, 1901.

THE HOVIS CYCLE ROAD MAP.

THIS is a map intended primarily for the use of cyclists and also to advertise Hovis bread and Ariel cycles. As a map it is clear and good. The roads are marked in red and the quality of hills indicated by differently feathered arrows. Mileage is also marked. The map is on a scale of five miles to the inch and covers the whole of England and Wales, being divided into eight sections. That before us includes, roughly speaking, the S.E. portion of England, its extreme points being from N. to S., Oxford to the Isle of Wight, and from E. to W., Broadstairs to Kingsclere. Crockham Hill, near Westerham, is misprinted "Cockham." The price of the map is 1s., and a list of hotels, repairing stations, and the like is also given.

S. T.—A medical man may, in our opinion, give an anæsthetic for any dentist on the Register whether his registration is due to diplomas or to the fact that he was in *bonâ fide* practice before a certain date. But a medical man should not assist an unregistered dentist by administering an anæsthetic for him.

Fulham.—We can only recommend our correspondent to give the matter no attention. Undoubtedly, if he could prove that he had been deliberately and publicly insulted he could obtain the protection of the law, but to bring an action upon flimsy grounds would be to expose himself to ridicule.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 20th, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Temp.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
June 14	29·61	N.W.	0·03	116	67	51	51	55	Cloudy
,, 15	29·96	N.	...	108	63	49	51	56	Cloudy
,, 16	30·00	N.W.	...	112	65	56	53	58	Cloudy
,, 17	30·00	N.W.	0·01	113	64	54	50	57	Cloudy
,, 18	29·96	N.	...	112	64	48	48	52	Cloudy
,, 19	30·18	S.	...	105	70	48	51	56	Cloudy
,, 20	30·10	S.W.	0·08	70	60	52	55	56	Overcast

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

SATURDAY (29th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (24th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Annual General Meeting. Election of Officers and Councillors for the ensuing session. Paper:—Mr. S. Colyer: A Case of "Burrowing" Epithelioma of the Alveolus. Mr. S. Boyd will show a Case of Mal-united Fracture of the Mandible remedied by Operation. The Meeting will be made special for the purpose of considering the Report of the Council on the Housing of the Museum and Library. The President: Valedictory Address.

WEDNESDAY (26th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Saunders: Rickets.

TUESDAY (25th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. H. Head: On Certain Mental States associated with Visceral Disease in the Sane. (Goulstonian Lecture).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Consultation. (Medical.)

WEDNESDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. J. Freyer: Consultation. (Surgical.)

LONDON HOSPITAL MEDICAL COLLEGE (Anatomical Theatre of the College).—4 P.M. Mr. Jonathan Hutchinson: Scrofula in Relation to Tuberculosis.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. J. K. Fowler: Bronchiectasis.

THURSDAY (27th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. H. Head: On Certain Mental States associated with Visceral Disease in the Sane. (Goulstonian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Consultation. (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Steward: Nasal Discharges of Children.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Keetley: Acute Peritonitis.

FRIDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Consultation. (Throat.)

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